POSITION

Subject: Proposals for the implementation of a capacity remuneration mechanism in Belgium
Date: 23 November 2018

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1. Introduction

End of July, 2018 the Belgian Government approved – in first reading – a draft law with proposals to modify the Belgian Electricity Law of the 29th of April, 1999 introducing a Capacity Remuneration Mechanism (CRM) in order to secure the Belgian electricity supply. During a second reading in November, 2018 (version 13.11.2018) some modifications have been made to – on the one hand – improve the draft law and to – on the other hand – respond to the comments and suggestions of the European Commission.

The Belgian Government is proposing to implement a centralized CRM, defined as a '*market mechanism based on a system of reliability options*'[1]. Great-Britain (in 2014), Ireland (in 2017), Italy (in 2018) and Poland (in 2018) have implemented similar centralized CRM's. The main difference between these countries is that reliability options – implying reimbursements in case of price spikes – have not been integrated in the design of the British and Polish mechanisms. Due to the characteristics of its electricity market, e.g. thermal gradient of demand, France opted (in 2016) for a decentralized CRM.

2. Evaluation of the high level proposals in the Belgian draft law

2.1. FEBEG supports the choice for a centralized CRM with reliability options

The Belgian Government has chosen a centralized design, meaning one single buyer of the required capacity through a competitive auctioning process. In a system with reliability options, capacity providers[2] receive an upfront fixed payment – at a price set through a competitive auction – for their commitment to be available and – in certain circumstances – pay back a part of their market revenues, i.e. '*they reimburse the positive difference between the reference price and the strike price*'.[3] This mechanism therefore limits the maximum level of revenues earned on the energy markets by assets contracted in the capacity market.

Taking into account both the Belgian challenges and market characteristics and considering the analysis in the sector inquiry[4] of DG COMP, **FEBEG considers a centralized CRM as the best choice for Belgium. Therefore, FEBEG welcomes the proposals for modification of the Electricity Law** in order to

[1] See definition 68° in article 2 of the draft law related to the capacity remuneration mechanism (version 13.11.2018).

[2] '*Capacity provider: capacity holder selected in an auction and providing capacity (…)*', see definition 72° in article 2 of the draft law related to the capacity remuneration mechanism (version 13.11.2018).

[3] See definition 69° in article 2 of the draft law related to the capacity remuneration mechanism (version 13.11.2018).

[4] '*Final report of the sector inquiry on capacity mechanisms*', European Commission, DG COMP, 30th of November, 2016.

introduce a CRM in Belgium. FEBEG appreciates the quality of the proposal and sees many positive elements in the proposed high level design, e.g. market-wide, technology-neutral, open for cross-border participation, differentiation in contract duration, … and acknowledges that some bottlenecks are addressed in an intelligent way, e.g. reimbursement of market revenues above a certain level, …

2.2. FEBEG urges for a CRM that addresses the industrial concerns and needs of capacity holders[5] and investors

FEBEG observes that a lot of important characteristics of the mechanism based on reliability options still need to be determined. FEBEG believes that it is **possible to – within the framework of the draft law – design a CRM that significantly improves the investment climate** for capacity holders and investors, provided the following:

- The different economic parameters and design features of the proposed CRM interrelate and interact. Therefore, FEBEG highly recommends to carefully assess these interdependencies in order to develop **a coherent and consistent set of parameters and features** which considerably improves the investment climate. Capacity holders and investors will evaluate possible business cases and investments in function of the overall package, i.e. the combination of all the economic parameters and design features.

- It is also key that the CRM is balanced out in such a way that it **effectively reduces the limiting uncertainties and disproportionate risks** for capacity holders and investors both for existing as for new built capacities. Tender features, implicit (e.g. pay-back obligations) and explicit (e.g. unavailability) penalties have to be designed carefully and should be reasonable. Appropriate risk mitigation policies should be considered to avoid that the CRM unintended increases the risk exposure of capacity holders and investors.

- Some proposals for detailed economic parameters and design features seem to be driven by the **assumption that capacity holders and investors will by definition misuse the system**. Obviously misuse needs to be prevented, but too big focus on this assumption risks to impede the swift realization of the objective of ensuring security of supply and is fore sure not a solid basis to come to a consistent and balanced mechanism.

Indeed, a consistent and balanced set of design features and economic parameters is hence key to develop a CRM that – **in a cost efficient way for consumers – delivers the final objective the Belgian government is aiming for, i.e. ensuring security of supply in Belgium for the future.**

In this context, FEBEG wants to draw the attention to the following – non exhaustive list – **examples of inconsistencies and uncertainties** that need to be further clarified and developed:

- It is not clear at this moment if the **pay-back obligation** will be designed and tuned to have a correct reimbursement of revenues or to enforce availability of the capacity. If a correct reimbursement is the objective, then the reference price and strike price should be carefully designed reflecting as much as possible the economic reality while unavailability penalties will be necessary to incentivize availability. If the pay-back obligation is tuned to enforce availability, then unavailability penalties become abundant and could even be considered as a disproportionate, unnecessarily increasing risks for capacity providers and investors.

[5] '*Capacity holder: every natural or legal person that can offer capacity individually or aggregated*', see definition 71° in article 2 of the draft law related to the capacity remuneration mechanism (version 13.11.2018).

- It is **not foreseen to implement a stop loss limit** while – on top of the pay-back obligation – several additional penalties are being considered again increasing risks for capacity providers and investors.

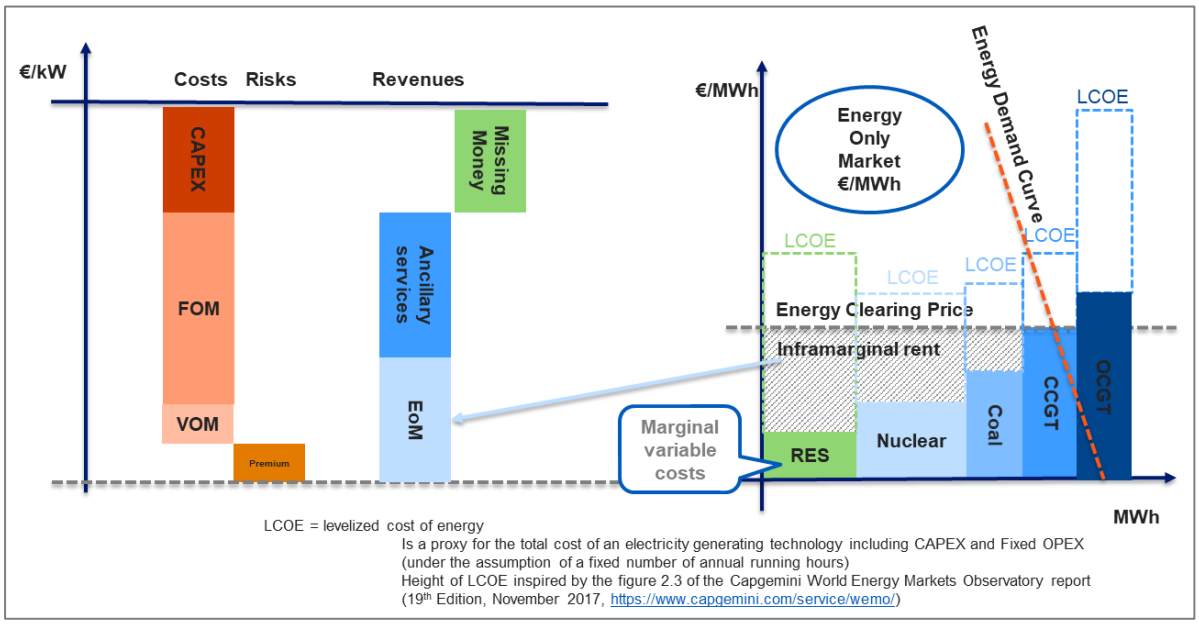
- A CRM based on reliability options in which capacity providers and investors would be unlimitedly exposed to a wrongly calibrated pay-back obligation while their **revenues would be capped in the CRM**, would also not be balanced and even increase risks for capacity providers and investors.

- The proposed CRM has several features – and additional proposals are made in this respect – to limit the cost of the mechanism for the end consumer. To be consistent with this objective, it should be avoided that proposals for the further implementation are made that increase risks for capacity providers (e.g. design of pay-back obligation) or limit options (e.g. environmental criteria or output criteria) which could potentially **increase the cost for society** of ensuring security of supply.

- For the moment proposals and details on the **participation of foreign capacity** are missing. It would be inconsistent to set up a mechanism with strict rules to ensure availability of capacities in Belgium while not having the same guarantees – availability of interconnection capacity as well as availability of foreign capacity – for the participation of foreign capacity as this would mean that ultimately the Belgian security of supply is still not ensured.

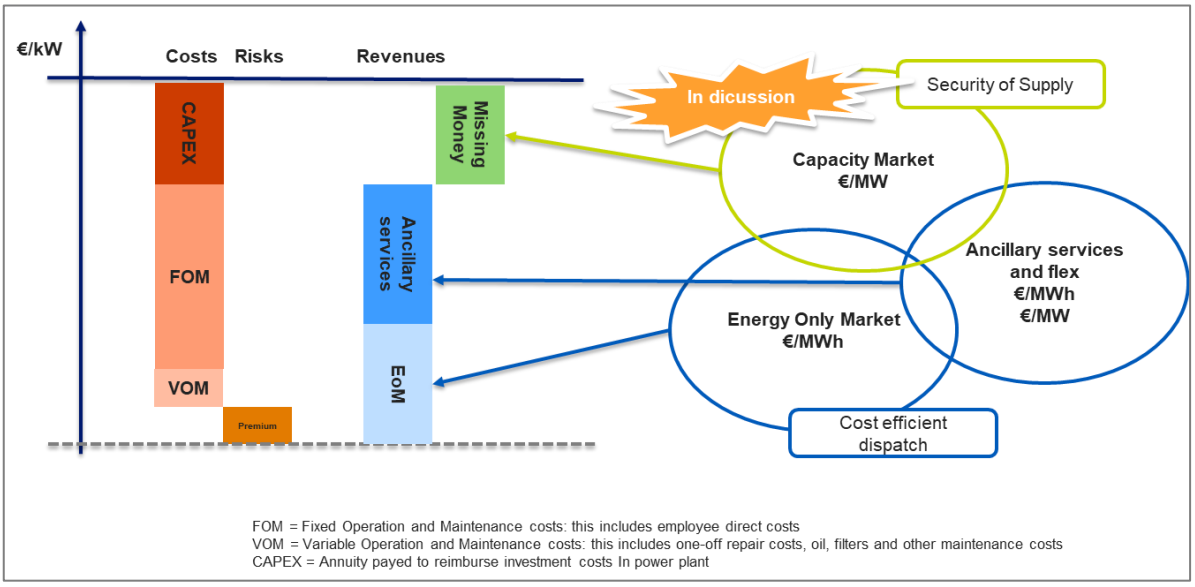
2.3. FEBEG emphasizes that a CRM is complementary to the energy only market and aims at remunerating only 'missing money' in order to ensure security of supply

Power generation, demand and storage facilities offered in the current 'Energy Only Market' (EOM) as well as in the ancillary service markets organized by TSO's, can have earnings from these markets.



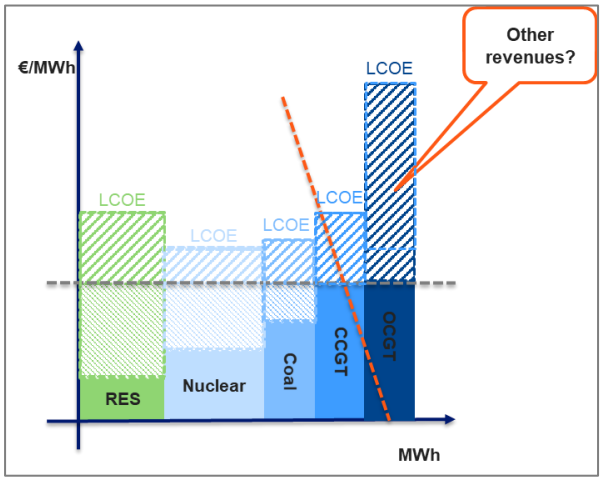
Illustrative graph 1

The EOM is organized in a way that full competition between the market parties results in the most economic balance between offers and demands (graph 1). Bidding behavior in such competitive markets aims at covering at least the (short run) marginal cost of delivering the power or the service.



Illustrative graph 2

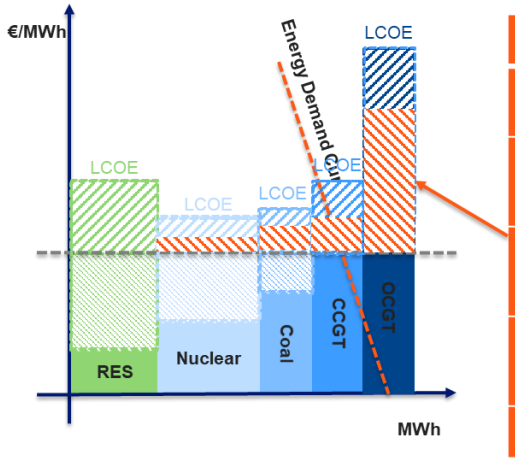
Fixed operational expenditure (OPEX) and capital expenditure (CAPEX) need to be covered by the revenues (margins above variable costs) made over the longer run as a result of the competitive price setting (based on variable costs) between demand and offer. **If these 'inframarginal rents' are insufficient, the facility faces some 'missing money' (graph 2) to cover its full costs (variable, fixed and investment costs) over its economic lifetime (Long Run Marginal Cost)**. Existing facilities suffering too long from 'missing money' will be taken out of service due to economic losses. If the market design in place is not properly addressing the risk of 'missing money', this will impact operational decisions for existing assets and hinder investment decisions for new assets. In the electricity system, in which all capacity – baseload as well as rarely used peak capacity – must ensure stability to avoid total system collapse ('black-out'), generation capacity leaving the market without being timely replaced by new capacity, could in time lead to system adequacy issues.



Illustrative graph 3

In practice, one should note that renewable energy support mechanisms aim at covering the missing money gap between the market revenues and the 'Levelised Cost of Energy' (LCOE) of renewable energy sources (like wind and PV) in order to reach the policy targets for renewable energy.

Some generation, demand and storage facilities can earn additional revenues from ancillary services (e.g. frequency reserves, voltage regulation, black start) depending on their capabilities, e.g. flexibility (graph 3 and 4).



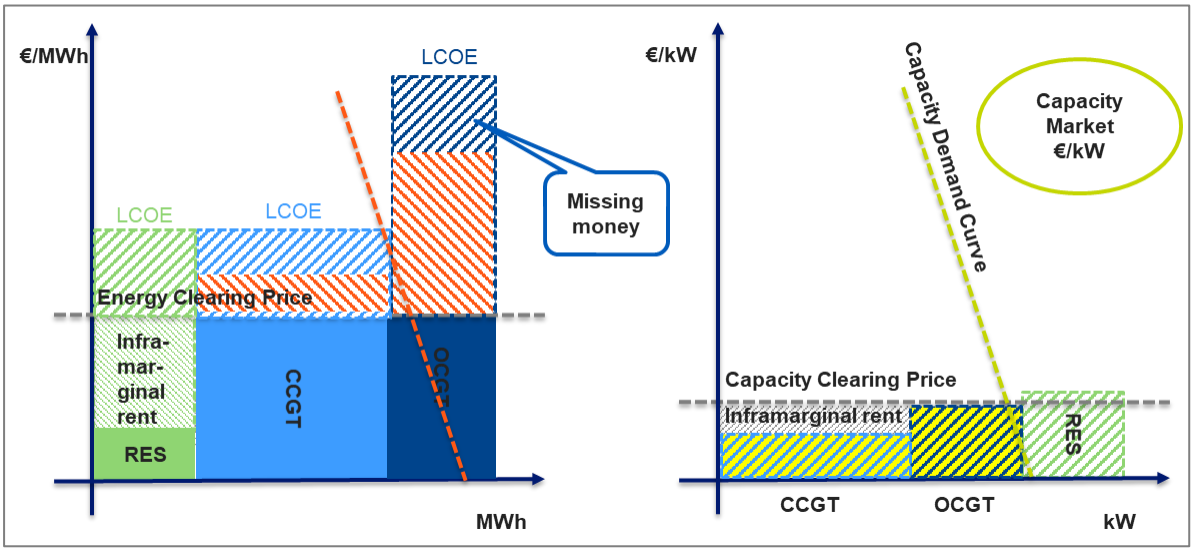
Ancillary service	Nuclear plant capabilities	Coal plant capabilities	CCGT plant capabilities	OCGT plant capabilities
Frequency containment reserve	Yes (when running)	Yes (when running)	Yes (when running)	Yes (when running)
Automatic frequency restoration reserve	No	Yes (when running)	Yes (when running)	Yes
Manual frequency restoration reserve	No	Yes (when running)	Yes (when running)	Yes
Voltage regulation (reactive power)	Yes (when running)	Yes (when running)	Yes (when running)	Yes (when running)
Black start	No	No	Yes	Yes

These services are remunerated based on availability as a reserve (€/kW) and actual delivery of energy (€/MWh or €/MVAr)

Illustrative graph 4

The ancillary service market is a competitive market with only a limited demand (in Belgium around 1.000 MW) and over time these revenues are insufficient to help covering the full fixed cost of power plants.

A well designed market-wide competitive CRM will ensure that the capacity – required to secure supply – procured through this mechanism, is offered by market participants at the level of their estimation of missing money only.



Illustrative graph 5

It therefore should not be expected that full investment costs will be offered in and set the price for capacity (graph 5). To the contrary, **market participants will try to maximize their (expected) revenues from the energy only market and ancillary services market, especially for facilities that are capable of combining high availability and flexibility. By doing so, they reduce their 'missing money' compared to their competitors and increase the likelihood of their selection for capacity contracts.** This 'missing money only' bidding behavior will largely level out the technology differences for the competitive technologies, but can only be truly achieved by a pay-per-clear market mechanism.

3. FEBEG proposals for economic parameters and design features of the Belgian CRM

3.1. Prequalification

3.1.1. Draft legal framework

The prequalification is a procedure with the objective to determine the possibility for capacity holders to participate in the auction[6].

A Royal Decree will determine the criteria and modalities in order to be allowed to the prequalification process. These criteria and modalities aim at determining (1) the possibility to participate to the prequalification process for capacity holders having benefitted or benefitting of support, (2) the minimum thresholds to participate to the prequalification process taking into account reduction factors and (3) the conditions for capacity holders of direct or indirect foreign capacities to participate in the prequalification process.[7].

The draft law[8] already describes some basic principles with regard to the prequalification process:

- the prequalification process will be organized by the TSO;
- the prequalification period will start on the 1st of June;
- the TSO will communicate the result of the prequalification process to the capacity holder two weeks before the start of the auction;
- capacity holders of generation capacity in the Belgian balancing zone are obliged to prequalify;
- capacity holders of demand response and storage capacity in the Belgian balancing zone and all capacity holders of foreign capacity can voluntary prequalify.

It is also important to point out that a prequalified capacity holder is not obliged to participate in the auction[9]: he can choose not to offer all or part of his prequalified capacity in the auction provided he upfront notifies the TSO as this allows the TSO to take this into account in the determination of the volume that needs to be procured.

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[6] See definition 79° in article 2 of the draft law related to the capacity remuneration mechanism (version 13.11.2018).

[7] Article 7 decies, §7 of the draft law with proposals to modify the Electricity Law of the 29th of April, 1999 introducing a capacity remuneration mechanism (version 13.11.2018).

[8] Article 7 decies, §4 of the draft law with proposals to modify the Electricity Law of the 29th of April, 1999 introducing a capacity remuneration mechanism (version 13.11.2018).

[9] Article 7 decies, §5 of the draft law with proposals to modify the Electricity Law of the 29th of April, 1999 introducing a capacity remuneration mechanism (version 13.11.2018).

3.1.2. General prequalification criteria

3.1.2.1. Short description

The general prequalification criteria not only aim at identifying the capacity holder, but also at checking his legal and financial reliability.

Other countries have also established general prequalification criteria:

Ireland[10]	§ 24	Objective is to identify potential providers of capacity and assess their ability to deliver and their credibility
Italy[11]	§ 57	Criteria: not subject of dismantling measures, necessary permit and detailed plan with milestones of plant construction and expected date of commissioning, guarantees, specific asset requirements, relinquish other subsidies, …
Poland[12]	§ 20-26	Criteria: capacity declaration, technical information on metering, license, specific technical information (ramping rates, efficiency, …), expected lifetime, relinquish other subsidies, grid connection agreement or connection terms, …
Great-Britain[13]	§ 25-27	Criteria: no other subsidies, requirements for different types of capacity with prequalification checks, administrative information (license, …) and historic performance. For new units: evidence of planning consent and connection agreement, construction plans, expected capital expenditure, collateral, …
Belgium	**-**	**General prequalification criteria to identify the capacity holders and investors** **Specific prequalification criteria depending on the type of capacity, e.g. existing generation capacity, repowering, new generation capacity, storage and demand response**

3.1.2.2. Explanation FEBEG proposal

As it is the objective of the CRM to ensure security of supply, an accurate assessment – through the prequalification process – of the availability of the existing capacities as well as the probability of the timely availability of new capacities is crucial.

For new capacities – and to lesser extent for repowering – the prequalification criteria have to **strike a delicate balance between not imposing too strict requirements that would exclude projects being developed and obtaining sufficient guarantees that the capacity will be available**, especially as meeting the prequalification criteria could – to a certain extent – depend on third parties, e.g. authorities granting permits, potential appeals[14],... Therefore separate prequalification criteria need to be set for the different types of capacity, e.g. existing generation capacity, repowering, new generation capacity and demand response.

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[10] '*Decision State Aid SA.44464 – Ireland – Irish Capacity Mechanism'*, European Commission, DG COMP, 24th of November, 2017.

[11] '*Decision State Aid SA.42011 – Italy – Italian Capacity Mechanism'*, European Commission, DG COMP, 7th of February, 2018.

[12] '*Decision State Aid SA.46100 – Poland – Planned Polish Capacity Mechanism'*, European Commission, DG COMP, 7th of February, 2018.

[13] *Decision State Aid SA.35980 – United Kingdom – Electricity Market Reform – Capacity Market'*, European Commission, DG COMP, 23rd of July, 2014.

[14] FEBEG proposes a specific contractual arrangement considering an appeal before the Council of State – as timings are unpredictable – as an act of God.

	Existing capacity	Repowering	New capacity	Storage	Demand response
Preliminary decision by CREG	Approval for a longer contract duration	Approval for a longer contract duration	Approval for a longer contract duration	Approval for a longer contract duration	Approval for a longer contract duration
Prequalification by TSO	General information	General information	General information	General information	General information
	Ability to deliver	Detailed plan with milestones for the development of the plant modification/revision and expected date of commissioning	Detailed plan with milestones of the development of the plant construction and expected date of commissioning	Ability to deliver demonstrated via existing contracts or tests	Ability to deliver demonstrated via existing contracts or tests
	Or demonstration that federal generation permit is fit for use Or declaration that modification is applied for with planning	Or demonstration that federal generation permit is fit for use Or declaration that modification is applied for with planning	No federal generation permit required, but all information submitted during prequalification	*Not applicable*	*Not applicable*
	Or demonstration that regional permits are fit for use Or declaration that modification is applied for with planning	Or demonstration that regional permits are fit for use Or declaration that modification is applied for with planning	No regional permits required, but declaration that permits are applied for with planning	*See existing or new depending on situation*	*Not applicable*
	Not applicable	*Not applicable*	Detailed study showing timely commissioning of the connection (electricity and, if applicable, gas)	*See existing or new depending on situation*	*Not applicable*
	Not applicable	*Not applicable*	Demonstration site is secured (ownership, lease, …)	*See existing or new depending on situation*	*Not applicable*
	Financial guarantee	Financial guarantee	Financial guarantee	Financial guarantee	Financial guarantee

During the prequalification process it should be checked if all capacity holders and investors – that have declared to participate in the capacity auction – have provided a financial guarantee. In order to avoid a too large impact on the offers and hence an increase of the system cost, the **financial guarantees should be reasonable and proportionate in relation to their objective**. In this respect, a distinction needs to be made:

- *all capacity holders*: the financial guarantee should cover both the pay-back obligation and potential other penalties (financial guarantee in function of contracted capacity and contract duration);

- *capacity holders of new capacities*: the financial guarantee should additionally cover specific penalties for new to build capacities, e.g. delay, termination fee, … (financial guarantee in function of timely commissioning, contracted capacity and contract duration).

FEBEG has also identified some **issues with regard to the prequalification process that need further clarification**:

- *Federal Generation Permit:*

  The draft law[15] allows a capacity holder to participate to the prequalification process without having obtained a Federal Generation Permit. In that particular case he is obliged to submit all information that would be requested when applying for such a Federal Generation Permit.

  According to FEBEG **it is and remains the competence of the Federal Public Services to grant a Federal Generation Permit.** This competence cannot be delegated to the TSO meaning that a positive decision on the prequalification cannot replace a decision of the Federal Public Service on the Federal Generation Permit.

  A capacity holder of new generation capacity will thus still need to apply for a Federal Generation Permit on the one hand and participate in the prequalification on the other hand. The obligation to submit in the prequalification process all information that would be requested when applying for a Federal Generation Permit does, as a consequence, only allow to have both procedures in parallel based on a consistent information.

- *Decision on prequalification:*

  The prequalification process will be organized by the TSO and the TSO will decide on the prequalification. A **procedure to question or submit an appeal** with respect to the decision of the TSO will need to be developed.

- *Decommissioning of power plants:*

  FEBEG is of the opinion that the existing legal framework with restrictions and timings – up to 15 months notification period – for temporary or definitively closures of power plants needs to be reviewed.

  A capacity of holder of generation capacity should always have the right to close its power plant respecting **a reasonable and proportionate notification period depending on the situation**:

[15] Article 7 decies, §4 of the draft law with proposals to modify the Electricity Law of the 29th of April, 1999 introducing a capacity remuneration mechanism (version 13.11.2018).

- The capacity holder enters in the prequalification process and notifies the TSO that he has the intention to close his power plant.

- The capacity holders prequalifies, remains in the market – i.e. he doesn't participate in the capacity auction – and decides to close his power plant.

- The capacity holder prequalifies, participates in the capacity auction but he was not 'in merit' – i.e. he's not contracted – and wants to close his power plant.

3.1.3. Investment thresholds and repowering

3.1.3.1. Short description

Every capacity will be qualified in a specific capacity category. A capacity category[16] is a category that includes capacities that meet the relevant total investment thresholds and to which is linked a certain number of capacity periods during which a capacity providers receives a capacity remuneration.

According to the draft law[17], a Royal Decree will – based on a proposal of CREG following a public consultation and an advice of the TSO – determine the investments thresholds as well as the criteria to evaluate the costs that can be taken into account for investments that will be allowed to participate in the capacity auction.

Other countries have also established investments thresholds:

Ireland	§ 54	New investments as well as repowering can apply for 10 year contract provided a CAPEX level is reached: this CAPEX level is set at investments of more than 300.000 EUR/MW (= 40 % of the gross cost of the new best entrant)
Italy	§ 183	Long-term capacity agreements are only open for projects – including repowering – that incur investments costs (in EUR/MW) that are not lower than 40 % of the average investment cost in peak technology
Poland	§ 25-26	Information on refurbishment (increase net capacity & efficiency) needs to be submitted in the prequalification process which will determine the capacity as eligible for a 1,5 or 15-year contract
Great-Britain	§ 57	Existing capacity providers have access to one year agreements Capacity providers undertaking capital expenditure above GBP 125/kW threshold (refurbishing plants) will be eligible for capacity agreements up to a maximum of three years Capacity providers undertaking capital expenditure above GBP 250/kw (new plants) will be eligible for capacity agreements up to a maximum of fifteen years
Belgium	-	**Investment threshold (CAPEX-level) of less than or equal to 45 EUR/kW qualifies for a 1 period contract** **Investment threshold (CAPEX-level) of more than 45 EUR/kW qualifies for a 3 period contract** **Investment threshold (CAPEX-level) for an 8 period contract should be consistent with other thresholds and guarantee that the size of the investment justifies this contract duration**

[16] See definition 81° in article 2 of the draft law related to the capacity remuneration mechanism (version 13.11.2018).

[17] Article 7 decies, §4 of the draft law with proposals to modify the Electricity Law of the 29th of April, 1999 introducing a capacity remuneration mechanism (version 13.11.2018).

		Investment threshold (CAPEX-level) of more than 300 EUR/kW qualifies for a 15 period contract **Criteria for the evaluation of the investment costs should be carefully designed and clear, transparent and non-discriminatory**

3.1.3.2. Explanation FEBEG proposal

FEBEG wants to remind the **importance of a technology-neutral approach as this allows all capacities to compete on a level playing field** while preferential treatment of capacities – beyond the question of fair competition – will lead to a suboptimal outcome: a non-privileged approach will ensure that the required capacity is contracted in the most cost-efficient way.

Therefore, the main principle should be that not the type of investment, but **the eligible investment itself, i.e. investment threshold set at a CAPEX-level (in EUR/kW), determines the contract duration.** Investment thresholds are needed to avoid that a project would be qualified for a contract duration that is not justified. With regard to these investment thresholds, FEBEG wants point to the importance of the Royal Decree determining the criteria for the evaluation of the investment costs that can be taken into account to meet the investment thresholds [18]: these **criteria to evaluate the investment costs should be carefully designed and clear, transparent and non-discriminatory**. The criteria should also make sure that investments being done after the publication of the modified Electricity Law can be taken into account to meet the investment thresholds.

FEBEG would like to advocate the **following approach for the investment thresholds**:

- *Investment threshold (CAPEX-level) of less than or equal to 45 EUR/kW (1 period contract)*

  Existing capacity will by definition apply for 1 period contracts. As these existing capacities are supposed to be able to participate in the CRM without investments, **criteria for the evaluation of the investment costs makes little sense**.

- *Investment threshold (CAPEX-level) level of more than 45 EUR/kW (3 period contract)*

  FEBEG is of the opinion that **major overhauls should also be considered in this category: major overhauls also generate CAPEX cost – with depreciation over several years – with the objective to extend the lifetime of an asset.** The criteria to evaluate the investment costs should make sure that existing capacities confronted with CAPEX costs due to a major overhaul are not pushed out of the market because they are only eligible of one period contracts and fear not to be able to recover these CAPEX costs.

  In order to include major overhauls, FEBEG proposed to set the investment threshold **at 45 EUR/kW for a 3 period contract or more**.

- *Investment threshold for an 8 period contract should be consistent with other thresholds and guarantee that the size of the investment justifies this contract duration*

  FEBEG considers it important to also set an investment threshold for an 8 year contract as a guarantee that such a long contract duration for the investment is justified. This threshold should be **consistent with the other thresholds**.

[18] Article 7 decies, §4 of the draft law with proposals to modify the Electricity Law of the 29th of April, 1999 introducing a capacity remuneration mechanism (version 13.11.2018).

- *Investment threshold (CAPEX-level) of more than 300 EUR/kW (15 period contract)*

  FEBEG observes that other countries have all chosen very similar investment thresholds for large investments. This category will allow for investments in new capacities on the one hand and large refurbishments on the other hand. Therefore, FEBEG proposes to align and set **a CAPEX-level at 300 EUR/kW for 15 period contracts.**

FEBEG is also of the opinion that **a mechanism should be foreseen to periodically review the thresholds** in order to allow the thresholds to evolve taking into account new technical evolutions or changing market circumstances. The thresholds, for example, could also be indexed or expressed in function of the CONE.

3.1.4. Derating factors

3.1.4.1. Short description

A derating factor[19] is a weighing factor that considers the contribution of capacity to the security of supply in order to determine the volume that needs to be auctioned.

The derating factors will be determined – after advice by CREG – by the TSO following a methodology foreseen in a Royal Decree[20].

All other countries also apply derating factors:

Ireland	§ 24, 30 and 35	Derating based on type of technology Tables depending on capacity size and technology (thermal, hydro, wind, solar, and demand response)
Italy	§ 60-64	CDP (Capacità Disponibile in Probabilità): assessed ex ante applying a derating by technology and based on historical data Thermal (fault probability, environmental constraints and authorization, technical or legal constraints): 20-25 %; geothermal 10-15 % Hydro based on previous 5 years: 40-60 % Wind: 85-90% Solar: 40-60 % Demand response: CDP x coefficient of 0-1 to compensate for limited availability obligations
Poland	-	-
Great-Britain	§ 15-27	Derating factors based on class type historic performance of seven years CCGT: 88,54 % OCGT: 94,1 % Coal: 97,58 %
Belgium	**-**	**Derating factors for all types of capacity** **Existing capacity: derating factors per type of technology based on historical data** **New capacity: derating factors per type of technology based on historical data of similar technology/prospective analysis** **Planned as well as unplanned outages should be taken into account** **No additional environmental criteria**

[19] See definition 80° in article 2 of the draft law related to the capacity remuneration mechanism (version 13.11.2018).

[20] Article 7 decies, §2 of the draft law with proposals to modify the Electricity Law of the 29th of April, 1999 introducing a capacity remuneration mechanism (version 13.11.2018).

3.1.4.2. Explanation FEBEG proposal

Belgium already has a return on experience regarding the usage of derating factors for most types of capacity. Derating factors are used in the adequacy assessments to determine the volumes of strategic reserves. Past years the applied methodology as well as the input data for the derating are being consulted upon. As a result the methodology has continuously been improved and become quite stable.

Elia is using derating factors based on historical data of the availability of a technology to determine the contribution of the existing units to the security of supply. **A pragmatic approach would thus be to use the existing methodology as a basis**.

Nevertheless the **existing methodology needs to be adjusted at some points**:

- *Outages:*

  As it is the objective of the derating factor to reflect the contribution of a capacity to the security of supply, it is logic to take into account the unplanned outages linked to that type of capacity.

  The period of capacity delivery is defined as the period from 1 November till 31 October of the next year[21], i.e. a full calendar year. In other words: a capacity provider is during the duration of his contract continuously exposed to the pay-back obligation and other potential penalties. This means that a workable solution needs to be found for planned outages. **FEBEG is of the opinion that planned outages – accepted and agreed upon by Elia – should be excluded from the pay-back obligation and other potential penalties**: the reason is that the capacity provider doesn't receive any revenues from the market during these planned outages. If this approach would be implemented, the planned outages should also be taken into account in the determination of the derating factors.

- *New capacities:*

  The existing methodology – provided planned outages are taken into account – is sufficient for existing capacities. For new capacities **the derating factors of the same or the most similar technology could be applied, possibly improved with a prospective analysis**.

FEBEG strongly supports the principle **'one target, one measure'**. It is always important to carefully identify the most suitable tool to realize a certain policy objective and should then rely on that mechanism to deliver. Interfering in measures, or mixing measures, will have as consequence that the initial objective will be realized in a less efficient or more costly way. The main objective of the CRM is to ensure security of supply. For this reason, **FEBEG is not in favor of applying environmental criteria, e.g. adjusting the derating factors – and hence the capacity remuneration – in function of environmental criteria**. These environmental objectives – which FEBEG also supports – should be reached through the appropriate tools that are set up to reach these objectives in the most cost-efficient way, e.g. EU Emission Trading Scheme.

[21] See definition 76° in article 2 of the draft law related to the capacity remuneration mechanism (version 13.11.2018).

3.2. Auction mechanism

3.2.1. Draft legal framework

An auction is a competitive process in which the capacity holders offer a price for the availability of their capacity.[22]

The auction modalities and auction rules will be determined by the CREG following a proposal made by the TSO and consultation of the grid users.[23]

3.2.2. Clearing price

3.2.2.1. Short description

The clearing price is the price achieved in the clearing round, which is the bidding round where the supply curve intersects the demand curve, i.e. equilibrium point. The way of setting the clearing price should be decided before the start of the auction, either as pay-as-clear or pay-as-bid:

- pay-as-clear means that the winners of the auction are awarded the same price which is determined by the last accepted bid in the clearing round;
- pay-as-bid means that the winners of the auction are awarded an individual price which is based on the individual accepted bid in the clearing round

All countries apply the pay-as-clear principle:

Ireland	§ 46 and 47	All in-merit bidders receiving the clearing price (pay-as-clear)
Italy	§ 69	The premium is the clearing price of the auction on the basis of the marginal price principle (pay-as-clear)
Poland	§ 40	Pay-as-clear auction
Great-Britain	§ 49	Pay-as-clear auction
Belgium	**-**	**Pay as clear auction (all in-merit bidders are paid the last-accepted bid)**

3.2.2.2. Explanation FEBEG proposal

FEBEG supports the pay-as-clear principle as this is **a common feature in the electricity markets**: **all centralized CRM's implemented in Europe so far are also based on a pay-as-clear pricing mechanism**.

Uniform pricing in a CRM is fair because **all capacity providers delivering the same service, being reliable capacity, are remunerated at the same level**, namely the marginal bid, independent of their technology and type (new versus existing capacity). A uniform remuneration based on the marginal bid is also consistent with the energy markets based on marginal pricing. The day-ahead power exchanges, for example, remunerate generation units according to pay-as-clear: all generation units dispatched in a given hour, independent of the technology, are remunerated at the same clearing price

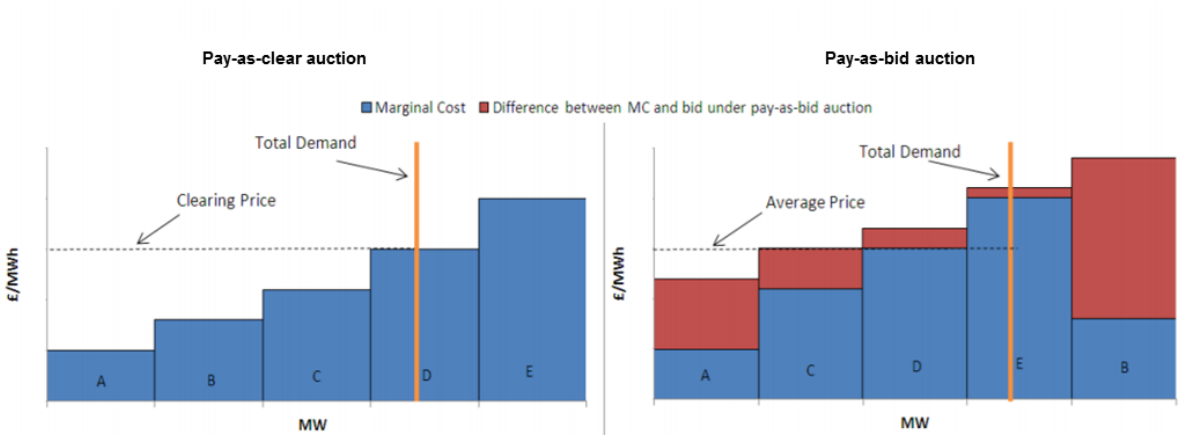
[22] See definition 70° in article 2 of the draft law related to the capacity remuneration mechanism (version 13.11.2018).

[23] Article 7 decies, §7 of the draft law with proposals to modify the Electricity Law of the 29th of April, 1999 introducing a capacity remuneration mechanism (version 13.11.2018).

of that hour. As a result there's no discrimination between assets as there's no differentiation in the revenues which the assets – that are selected in the EOM – receive.

The principle of uniform marginal pricing reflects the idea of pricing resources at their marginal societal value: in the absence of a reliable unit (independent of its technology or age), additional load has to be curtailed in scarcity moments or a more expensive unit will have to replace it. This is valued at the marginal bid. Therefore, marginal pricing **ensures efficient consumption, production and investment decisions**. Producers (consumers) 'see' the value (cost) of providing more capacity (consuming more) and take appropriate measures. In addition, pay-as-clear mechanisms are more transparent and favor competition as a result. Uniform pricing therefore widens the market and leaves room for smaller bidders, favoring entry.

Contrary to a common misbelief, **pay-as-clear systems do not lead to higher market outcomes**. Also, pay-as-clear mechanisms are usually more simple and efficient. In a pay-as-clear system, bidders know that they will receive the marginal bid when selected in the auction. They have thus an incentive to bid at their expected missing money. In a pay-as-bid system, market players will try to anticipate the offer of the marginal unit and adapt their bid accordingly. This will lead to an inefficient selection of units: not necessarily the cheapest projects are selected (see example below).



Going forward, this suboptimal selection in the CRM also risks to influence the optimal dispatch in the EOM with a higher clearing price in the energy markets as result and, hence, to increase the total cost for the end consumers.

An important point which should also be mentioned is the prevention of market power abuse. Belgium has a particularly centralized market where the capacity which will be offered into the auction will be dominated by a few players. Pay-as-bid would clearly advantage large, existing players having insights in all the bids they will offer in the auction, while small participants as well as new entrants would be put at a disadvantage, having less insight. Pay-as-bid does therefore not foster a transparent, fair and competitive market.

Pay-as-clear mechanisms – with a uniform price for all technologies and types (new and existing assets) – are preferred because they are simple, efficient, fair, transparent, favor competition and actually do allow the price to converge to 0 EUR/MW when there would no longer be a need to complement the revenues from the EOM with a capacity remuneration. For these reasons, they have been chosen in all centralized CRMs: one price for one same service, i.e. delivering reliable capacity.

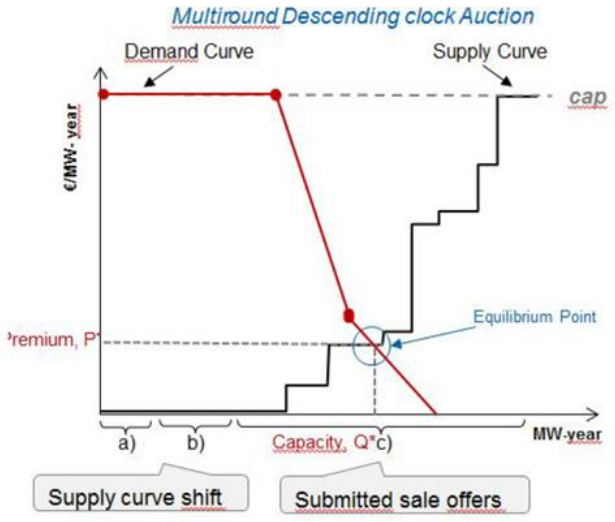
3.2.3. Descending clock auction

3.2.3.1. Short description

In a descending clock auction the auction runs in a descending clock format in discrete bidding rounds meaning that the price of the auction starts at a high price – the maximum auction price – and the auctioneer reduces the price in each round by a set decrement until the final clearing round.

In each round the auction price is bounded by the bidding round price cap and the bidding round price floor and each participant has two choices: either to stay in the auction or to exit the auction. If participants want to exit the auction they need to submit exit bids for their prequalified capacities and as soon as a prequalified capacity exits it cannot re-enter into the auction. The exit bid is the minimum price at which a participant would accept a capacity agreement and it could be any price between the current bidding round price cap and the bidding round price floor. If the participant chooses to continue to the next round it means he is willing to accept a lower price than the price floor of the current round.

As the price descends in each round and participants submit exit bids, the total capacity remaining in the auction decreases with price. The auction ends at the bidding round where the supply curve intersects the demand curve, meaning the total capacity remaining in the auction is equal to the capacity demanded. This round is known as the clearing round and the price of the auction is called clearing price. All the participants that have not submitted an exit bid above the clearing price will be winners of the auction and all receive capacity agreement at the clearing price.



Most countries have chosen for a descending clock auction:

Ireland	§ 46 and 47	Interim solution: simple sealed bid Permanent solution: sealed bid combinatorial auction
Italy	§ 66	Descending clock auction with a maximum of 21 rounds
Poland	§ 40	Descending clock auction until final clearing round
Great-Britain	§ 49	Descending clock auction until final clearing round
Belgium	**-**	**Descending clock auction until final clearing round**

3.2.3.2. Explanation FEBEG proposal

A descending clock auction ensures **a competitive bidding process** and is therefore an appropriate mechanism for the Belgian CRM. It is also important to emphasize that a descending clock auction with pay-as-clear **allows the clearing price to decrease up to 0 EUR/kW** in case there's no 'missing money' expected and thus no need to complement the revenues from the energy and ancillary service market.

3.2.4. Price cap

3.2.4.1. Short description

A price cap is the maximal price for a bid that can be allowed in the auction[24]. This price cap will be determined by the Minister based on a proposal of the TSO and after advice of CREG and the Federal Public Services[25].

The following considerations with regard to the concept of a price cap is assuming that the auction mechanism is a descending clock auction with pay-as-clear.

In order to avoid confusion, is seems useful to clarify and distinguish the following concepts:

- maximum auction price: the maximum auction price is determined by the top of the demand curve and is the starting price in a descending clock auction;
- auction price cap: this is the maximum clearing price at which an auction can clear for a category of participants (further referred to as 'price cap');
- auction bid cap: this the maximum price at which a participant can submit an individual bid for its capacity (further referred to as 'bid cap').

It is important to point out that the clearing price could be higher than a bid cap. The auction could, for example, clear above a bid cap for existing capacity when existing and new capacity bid in the auction and the new capacity sets the clearing price: in this case the clearing price could exceed the bid cap of the existing capacity by which the existing capacity would get a clearing price above the bid cap for these capacities. However when a specific price cap would be set for existing capacity or refurbishment, the clearing price for these technologies would be capped at the level of the price cap for respectively existing capacity or refurbishment.

In all other countries different solutions are implemented:

Ireland	§ 50	Maximum auction price set at 1,5 x CONE (123,19 EUR/kW/Y) Bid cap for new capacity: 1,5 x CONE (123,19 EUR/kW/Y) Bid cap for existing capacity: 0,5 x CONE (41,06 EUR/kW/Y)
Italy	§ 52, 70-71	Maximum auction price Auction price cap in first implementation phase, i.e. bid cap acting as auction price cap in case the clearing price is above the bid cap Bid cap for existing capacity: in range of 25 to 45 EUR/kW/year Bid cap for new capacity: in range of 75 to 95 EUR/kW/year
Poland	§ 35	Auction price cap of 1,5 CONE (estimated between 65 and 70 EUR/kW/year) Price taker (i.e. existing capacity holders) bid cap of 45 EUR/kW

[24] See definition 76° in article 2 of the draft law related to the capacity remuneration mechanism (version 13.11.2018).

[25] Article 7 decies, §1 of the draft law with proposals to modify the Electricity Law of the 29th of April, 1999 introducing a capacity remuneration mechanism (version 13.11.2018).

Great-Britain	§ 40-52	Maximum auction price set at 75 GBP/kW Bid cap for price taker (i.e. existing capacity holders): 25 GBP/kW (50 % net CONE) No bid cap for price makers
Belgium	-	**Maximum auction price set at 1,5 x CONE** **Bid cap for price maker of 1,5 x CONE** **Bid cap for price taker of 0,5 x CONE**

3.2.4.2. Explanation FEBEG proposal

The best way forward for Belgium would be to organize one single auction for all capacities in which the capacity price is determined by the marginal price of the last selected bid.

If additional limitations would be considered **to protect consumers from unforeseen problem with the auction, such as a lack of competition or possible abuse of market power by participants, then such measures need to be carefully designed and coherent with other design parameters**.

- *Maximum auction price*

  The maximum auction price should be set at a level that encourages competition in the capacity auction – i.e. attracts investors and capacity holders – and that allows the market to set an efficient price for new capacity based on participants' judgement of the risks and potential returns in the electricity and capacity markets. In this perspective, **a maximum auction price set at a multiple – 1,5 for example – of the CONE could be considered.**

- *Bid cap for existing capacities*

  Several countries have introduced a bid cap for existing capacities in order to prevent an early exit of capacities linked to a gaming strategy. These bid caps are not designed to limit the revenues of the existing capacity holders: despite this bid cap, the **capacity price is still unique for all capacities and is determined by the marginal price of the last selected bid**.

  The design of the bid cap for existing capacities should respect the **principle of technology-neutrality**. To ensure that all capacity holders and investors can recover their investments costs and that the principle of technology-neutrality is respected, it makes sense to introduce bid caps that are linked to the CONE, e.g. as in the British, Irish and Polish mechanism.

  The European Commission also defends such approach: *'As regards the need for separate auctions, the EEAG*[26] *explicitly require measures to be open to both existing and new plants (Point (226)), not to create separate auctions. The Commission in addition considers that the fact that the full investment of new entrants must be recouped is already taken into account in the bidding caps, since new capacities can bid up to 1.5 Net CONE compared to 0.5 Net CONE for existing capacities. In addition, existing plants do not necessarily have already fully depreciated their capital costs.* ***A single tender for both new plants and existing plants (irrespective of their depreciation level) is therefore appropriate'.***[27]

26 'Guidelines on State aid for environmental protection and energy 2014-2020', *Communication of the European Commission*, 28th of June, 2014.

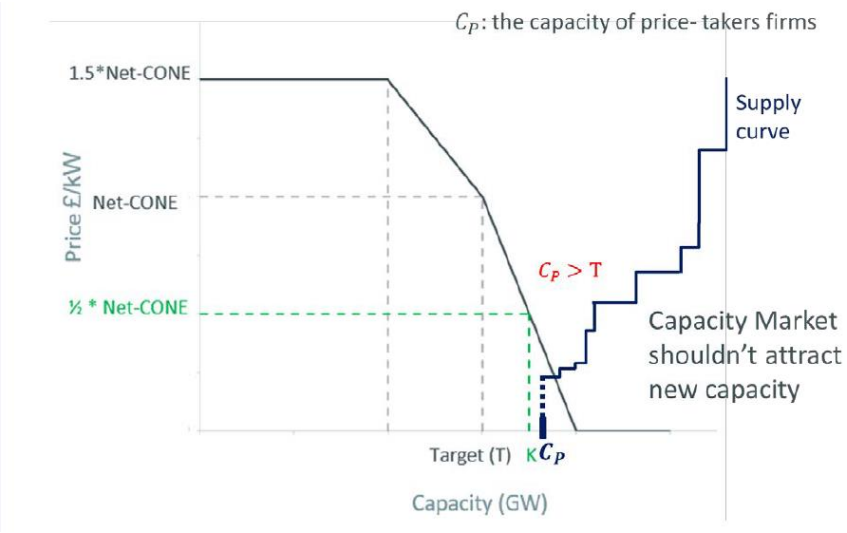
27 § 137 of '*Decision State Aid SA.44464 – Ireland – Irish Capacity Mechanism'*, European Commission, DG COMP, 24th of November, 2017.

- *Price makers and price takers*

Another measure to mitigate gaming and market power opportunities in the auction is **the separation of bidders who can set the price, i.e. 'price makers', and the bidders who cannot set the price, i.e. price takers'** at a given round in the auction. In practice, price takers are permitted to exit the auction only when the auction price falls at or below the 'price taker bid cap'. When only existing plants are price takers, this approach corresponds to a bid cap for existing capacity.

The European Commission also acknowledges the benefits of this approach: *'To mitigate market power in the auction, potential capacity providers who have successfully pre-qualified are classified as either 'price takers' (who cannot bid above a relatively low threshold) or 'price makers' (who can). Existing capacity providers will be price takers by default. New entrants and DSR resources will be classified as price makers, and will be free to bid up to the overall auction price cap. The UK submits that* ***this distinction reinforces incentives for participants to bid at true value of their capacity and mitigates the risk that existing plants with lower costs may seek to set a high price in years where new entry is not needed****. According to the UK, the price taker threshold should be set at a level that captures the majority of existing plant, while being at a price low enough to mitigate gaming risk. The price taker threshold has been set at GBP 25/kW (50% net CONE) for the first auction. This is high enough to capture the majority of existing plant. The UK's modelling suggests that this will capture around 80% of existing plant. GBP 25/kW is also significantly below the expected cost of new entry. As a result, a price taker threshold of GBP 25/kW also mitigates gaming risk.'*[28]

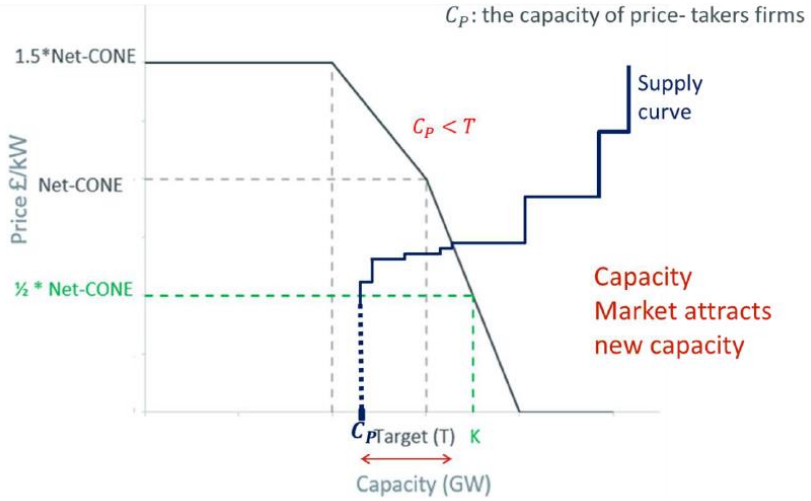
If the price takers offer sufficient capacity, i.e. more than the targeted volume, then the price of the auction will be below the price taker bid cap (as it is illustrated graphically below).



On the other hand, when the capacity offered by the price takers is less than the targeted volume, then new capacity will have to be procured. In this case the clearing price of the auction will be higher than the price taker bid cap as new capacity in the market will determine the price of the auction. However, the outcome of the auction – i.e. the exact amount of capacity

[28] § 52 of '*Decision State Aid SA.35980 – United Kingdom – Electricity Market Reform – Capacity Market'*, European Commission, DG COMP, 23rd of July, 2014.

and the clearing price – is ultimately defined by the costs of the resources and the bidding behavior of the participants.



Despite the bid caps for the price takers, all in-merit bidders of the auction should be awarded the same clearing price which is determined by the last accepted bid and should be able to clear above the bid cap for price takers.

Price cap

FEBEG doesn't support the introduction of price caps, neither for new capacities nor for existing or refurbished capacities. Introducing a price cap at too low level is de facto creating a revenue cap.

A revenue cap will create **several disadvantages.**

First of all, this price cap risks to turn the CRM based on reliability options into an **unbalanced system: capacity providers will be unlimitedly exposed to a pay-back obligation while their revenues will be capped**. The price caps will therefore discourage investors and capacity holders to participate and hence limit competition.

Asymmetric risk that will be reinforced by the investment calendar

The asymmetric risk between a price cap for capacity providers – hence a limit to their revenues – and their unlimited exposure to the pay-back obligation will be reinforced by the investment calendar. As the planned nuclear phase-out will start in 2025, a first T-4 auction will have to be organized at the latest in 2021 with the objective to create a positive investment signal in order to attract the needed new capacities by 2025.
So, capacity holders, that want to participate in the auction in 2021, will have to try to forecast the market circumstances in 2025 which will be characterized by two major uncertainties: what will be the impact on the market of the start of the planned nuclear phase out and will the new capacities – that have to replace the nuclear capacity – be available in time. Capacity providers will try to anticipate this combination of risks and price this increased risk in their offers. A too strict price cap could therefore discourage capacity holders to participate in this first T-4 auction when they fear that the price cap will not allow them to cover all their risks.

Price caps will also **hamper the participation of foreign capacities** on a level playing field with the Belgian capacities. Indeed, foreign capacities are subject to different price structures than capacities located in Belgium because the market environment in neighboring countries are actually different

(tariffs, taxes, operational costs and conditions, market revenues, fuel costs, …). Introducing price caps could therefore create or reinforce distortion in competition between the Belgian and the foreign capacities.

If, nevertheless, price caps would be introduced, they need to be carefully designed: they should be limited to existing and refurbished capacities, they should allow for the necessary investments, e.g. overhauls, they should be reasonable and proportionate taking into account the exposure to the pay-back obligation and other penalties, they should respect the principle of technology-neutrality, they should allow foreign capacity to participate and they should be limited in time. **Indeed, a price cap for existing and refurbished capacities could be introduced in the short term – first auction – to limit the revenues of existing units when new capacities are needed to ensure security of supply and are setting the capacity market price.** However, as soon as a sufficient amount of new capacities to solve the adequacy problem – created by the planned nuclear phase-out – is procured, any price cap should be removed.

Note that the Italian CRM is the only one approved by DG Competition with a price cap for existing assets and that this price cap is only applicable in the first implementation phase[29]. More particularly this price cap for existing assets is linked to the specific adequacy situation in Italy and to the impossibility to invest in new units given the lead time foreseen in the approved mechanism. The price cap for existing assets will be abolished in the full implementation phase: '*existing capacity will receive a premium higher than the (bidding) cap if new capacity is contracted*'.

3.2.5. Participation foreign capacity

3.2.5.1. Short description

Indirect foreign capacity is capacity that is situated outside the Belgian balancing zone with a contribution to the supply of the Belgian market through the interconnection between transmission grids[30].

The prequalification procedure and the participation to the auctions will also be open for foreign capacity[31], i.e. located outside the Belgian territory. The modalities will be determined by Royal Decree, before the first auction, after advice of the CREG and the TSO. These modalities will take the effective contribution of the capacity to the Belgian security of supply as well as the agreements between the TSO's into consideration.

This section will focus on the participation of direct foreign capacity, hereinafter referred to as foreign capacity.

It is also important to distinguish implicit and explicit participation of foreign capacity:

- *implicit participation of foreign capacity*: the contribution of foreign capacity to the Belgian security of supply is taken into account by reducing the volume that needs to be auctioned in Belgium, but the foreign capacity holders are not identified and not remunerated for their possible contribution to the Belgian security of supply;

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[29] § 79 and 80 of '*Decision State Aid SA.42011 – Italy – Italian Capacity Mechanism*', European Commission, DG COMP, 7th of February, 2018.

[30] See definition 84° in article 2 of the draft law related to the capacity remuneration mechanism (version 13.11.2018).

[31] Article 7 decies, §4 of the draft law with proposals to modify the Electricity Law of the 29th of April, 1999 introducing a capacity remuneration mechanism (version 13.11.2018).

- *explicit participation of the interconnector*: the interconnector participates to the Belgian auctions and receives a remuneration for their committed contribution to the Belgian security of supply;
- *explicit participation of foreign capacity*: foreign capacity holders can participate to the Belgian auctions in order to receive a remuneration for their committed contribution to the Belgian security of supply.

Most countries have developed or are developing a scheme for participation of foreign capacity:

Ireland	§ 38	Interconnectors (derated) participate directly to CRM Explicit participation of foreign generators as of 2020 subject participation of British counterparts
Italy	§ 59-67	Foreign capacity bid in directly with different conditions as domestic capacity as of 2019. Foreign capacity bid in at same conditions as domestic capacity after negotiation of bilateral agreements.
Poland	§ 51-54 and 62-63	*Interim*: Interconnectors (derated) participate directly to CRM *Target*: - Capacity providers located in control area of neighboring EU TSO's will be able to directly and explicitly participate - Foreign capacity providers will be preselected through pre-auctions for each border - Bids are sorted in ascending order and pre-selected up to the corresponding de-rated interconnector capacity - Pre-selected bidders have to go through the prequalification process in close cooperation with relevant neighboring TSO's - Foreign capacity providers can bid for one-year-contracts and will be considered as price makers - Foreign capacity providers passively participate in the auction: exit offers are automatically equal to the offers submitted during the pre-auctions resulting indifferent clearing prices by border - Difference in clearing prices leads to calculation of congestion rent which is split between TSO's
Great-Britain	§ 19-22	For first auction in 2014, implicit participation of foreign capacity Commitment to look for a solution (as of 2015) that allows explicit participation of foreign capacity
Belgium	-	**Participation of foreign capacity up to volume of derated interconnection** **Target model: explicit participation of foreign capacity with pre-auction to select foreign capacity providers** **Preferred transitory solution: explicit participation of the interconnector**

3.2.5.2. Explanation FEBEG proposal

Principle

As Belgium is a very interconnected country and relies to a large extend on imports to ensure its security of supply, FEBEG is convinced that foreign capacity holders should be able to participate directly in the Belgian CRM and to make real commitments for security of supply. **These foreign capacity holders should be enabled to participate on equal terms with Belgian capacity holders for their actual contribution to the security of supply in Belgium during periods of scarcity**.

FEBEG considers it of utmost importance that the participation of foreign capacity is organized such that (1) **it doesn't require the reservation of capacity** on the interconnections as this would imply an

interference with the EOM and (2) that the **same capacity is not committed in various CRM's and is** not remunerated several times for the same specific service, i.e. availability to deliver energy that actually contributes – according to the rules of the EOM – to the system adequacy of the country to whom the capacity was committed.

Setting up a cross-border mechanism respecting these two principles requires close cooperation with other countries. Given the forthcoming adequacy situation in Belgium, FEBEG is pleading for a realistic and pragmatic approach as regards the participation of foreign capacity. **Therefore, FEBEG is of the opinion that the objective should be to implement the target model as from the start of the Belgian mechanism on as many borders as possible**. The Belgian CRM will kick-off with a T-4 auction for new capacity while foreign capacity will only be able to participate in the T-1 auction: this window of three years should be used by all stakeholders to work on the implementation of this target model. This objective is even more realistic as other countries – like France – have been facing the same requirement from DG COMP and as concrete proposals for explicit participation of foreign capacities are already developed. A transitory solution – limited in time – could anyhow be foreseen for the borders where the target model could not be put in place in time.

Derating of the interconnection

The contribution of foreign capacity through the interconnector depends on two elements: (1) the amount of **available interconnection capacity** and (2) the amount of **foreign capacity (generation, storage or demand) that is available in excess in the foreign country and that could be exported to Belgium**. Both elements have to be assessed in times of system stress, i.e. simultaneous scarcity in both countries. ENTSO-E[32] has already provided an example of such assessment involving France, Great-Britain and Belgium.

The TSO will – in concertation with other authorities – estimate the contribution of foreign capacity through the interconnector to the security of supply in Belgium. It is **important that the authorities – that are ultimately responsible for security of supply – remain closely involved** in this assessment. Because the unavailability of the interconnector as such is considered as Force Majeure, the TSO has no incentive to limit the risks – i.e. come up with a realistic and prudent assessment of the availability of the interconnection capacity and of the foreign capacity available in terms of system stress – while he has an upward earning potential. Therefore, the TSO cannot be seen as neutral in the decision on the derating of the interconnections.

Participation of foreign capacity will be possible up to the volume of the derated interconnection capacity

Target model – Explicit participation of foreign capacity

General principle

Explicit participation of foreign capacity means that foreign capacity holders can directly participate to the Belgian auctions – up to the volume of the derated interconnection capacity – in order to receive a remuneration for their contribution to the Belgian security of supply.

FEBEG is of the opinion that the **Polish target model** – as Poland is also a strongly interconnected country – could be a good starting point for developing a Belgian solution, especially as it also allows for a border by border implementation depending on the progress to come to agreements.

It is also important to remind that some neighboring countries – France and United Kingdom – have already implemented a CRM. The implementation of the explicit participation of foreign capacity with

[32] Section 2.3 of '*Mid-Term Adequacy Forecast (MAF)*', ENTSO-E, 2018.

those countries should be relatively easy as similar processes and agreements should have already been discussed.

Level playing field between Belgian and foreign capacity holders

FEBEG considers it important that foreign capacity holders participate on **a level playing field basis with the Belgian capacity holders**. This means that foreign capacity holders:

- have to go through the Belgian prequalification process and meet the Belgian prequalification criteria;
- are subject to the same obligations, e.g. penalties, financial guarantee, …;
- have to pay back the difference between their reference price and the strike price on the Belgian market.

As foreign capacity holders should have the same obligations as Belgian capacity holders to ensure the level playing field on the one hand, but also to ensure their availability to deliver energy in Belgium during scarcity moments in Belgium, they should also comply with the same payback obligation: they will therefore be exposed to the pay-back obligation between their reference price and the strike price on the Belgian market. Foreign capacity not directly connected to the Belgian transmission grid, is by definition participating to foreign market zones (a.k.a. bidding zones) and so exposed to other spot and forward markets than the Belgian spot and forward markets. **This means that in times of scarcity situations in the Belgian bidding zone – and other bidding zones are hit in a lesser extent – they can't benefit, nor suffer to the same extent from the peak prices on the Belgian spot** market. As a result of the payback obligation they will have to pay back more than they were able to earn: **this is an important inequality that should be addressed.**

Preselection of foreign capacity holders

One can expect that a lot of foreign capacity holders will compete for a limited volume of derated interconnection capacity. Therefore, FEBEG supports the idea to **preselect capacity holders through pre-auctions on each border**. Bids are sorted in ascending order and pre-selected up to the corresponding de-rated interconnector capacity.

Such a mechanism has clearly some advantages:

- it allows – via a competitive process – to allocate the derated interconnection capacity on each border;
- it reduces considerably administrative burden as only the selected capacity holders will have to go through the prequalification process.

In this context it is important to have a correct and objective derating of the interconnection capacity. One should absolutely avoid to create an artificial scarcity of the interconnection capacity. As highlighted by ENTSO-E[33] the foreign capacity is the scarce resource and **most of the value should go to the foreign capacity holders.**

Auction

Foreign capacity holders can bid for **one-year-contracts** and will be considered as price makers.

'Foreign CMUs that pass the Main Certification are recorded in the Capacity Market Registry. They are eligible for 1-year capacity agreements. Since their costs structure, in particular the amount of their fixed operation and maintenance costs, may be different from that of the Polish generation mix, foreign

[33] '*Mid-Term Adequacy Forecast (MAF)*', ENTSO-E, 2018.

CMUs are not subject to the price taker threshold described in recital (48) and are therefore price makers in the capacity auctions. The Polish authorities submit that, in any event, the gaming risk against which the price taker threshold aims to protect is limited when it comes to foreign capacity, because the pre-auctions are expected to be very competitive due to the high number of foreign capacity providers competing for a limited amount of de-rated interconnector capacity.'[34]

Foreign capacity holders will only passively participate in the main auction: exit offers are automatically equal to the offers submitted during the pre-auctions dedicated to this foreign capacities. This could result in different clearing prices by border. The competition for the limited cross-border capacity will determine the clearing price for this particular border.

Congestion rent

This mechanism for participation of foreign capacity will lead to different clearing prices by border. These differences in clearing prices will be translated in a congestion rent for the interconnector.

These congestion rent should be split between the involved TSO's, which could incentive cooperation and the implementation of the target model for participation of foreign capacity. '*According to the Polish authorities, neighboring TSO's have an incentive to enter into such cooperation agreements because of the congestion rent sharing mechanism referred to in recital (65) above'* [35]. It will also provide the financial means for the TSO's to maximize the available interconnection capacity.

Preferred transitory solution – Explicit participation of the interconnector

FEBEG is clearly in favor of explicit participation of foreign capacity: foreign capacity providers should be remunerated – as Belgium capacity providers – for their contribution to the Belgium security of supply. In case setting up a mechanism allowing for this cannot be done before the first T-1 auction, it could be considered to start for one year with the explicit participation of the interconnector.

In such a model **the interconnector itself participates to the Belgian auctions and receives a remuneration** for its contribution to the Belgian security of supply. The interconnector will also be **subject to the pay-back obligation and unavailability penalties** like other capacity providers.

The exposure to the pay-back obligation and unavailability penalties will incentive the TSO's to come up with a realistic and prudent assessment of the availability of the interconnection capacity. Downside of this model is **nevertheless that the TSO acts as a market party**, i.e. participates as a capacity provider in the auction. Therefore, this transitory solution should be limited in time (one year).

Last resort solution – Implicit participation of foreign capacity

Implicit participation of foreign capacity means that the volume of the derated interconnection capacity is taken into account in the determination of the volumes to be auctioned. In other words: the volume of derated interconnection capacity will be subtracted from the total volume of capacity that is needed to meet the Belgian reliability standard. Only the remaining volume will be locally procured from capacity providers in the Belgium regulating zone.

This implicit model **does not in any way incentivizes the maximization of the available interconnection capacity nor does it secure the availability of foreign capacity to be exported to Belgium**.

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[34] § 62 of '*Decision State Aid SA.46100 – Poland – Planned Polish Capacity Mechanism'*, European Commission, DG COMP, 7th of February, 2018.

[35] § 67 of '*Decision State Aid SA.46100 – Poland – Planned Polish Capacity Mechanism'*, European Commission, DG COMP, 7th of February, 2018.

3.3. Contracting

3.3.1. Draft legal framework

After the auction a contract will be concluded with the selected capacity providers. This contract describes the pay-back obligation and the general conditions. It will be approved by CREG.[36]

The CREG approves the contracts following a proposal by the contracting entity and consultation of the TSO and the grid users. Each year the contracts will be published on the website of the contracting entity.[37]

3.3.2. Contract duration and lead time

3.3.2.1. Short description

The success of a CRM will to a large extent be determined by the contract duration and the lead time: capacity holders need to know how long they have to commit and how much time they have to realize the investments to deliver the service.

The contract duration is also already determined in the draft legal framework[38]. The contract duration will consist of a number of periods of capacity delivery in which the capacity provider will receive a remuneration. The contract duration will be 1, 3, 8 or 15 periods of capacity delivery in function of the capacity category for which the capacity is qualified.

For every period of capacity delivery two auctions will be organized: one auction 4 years and one auction 1 year before the period of delivery.[39]

Other countries have set up similar schemes:

Ireland	§53 § 42-43	1 and 10 year contracts Lead times: T-4 and T-1
Italy	§ 80	1, 3 and 15 year contracts Lead times: T-4 and T-1
Poland	§ 26, § 37 and 38	1, 5 or 15 year contracts Lead times T-5 and T-1, but first auctions will be T-3 and T-4
Great-Britain	§43 and §57	1, 3 and 15 year contracts Lead times: T-4 and T-1
Belgium	-	**1, 3 to 8 and 15 period contracts** **Lead times: T-4 and T-1**

[36] Article 7 decies, §6 of the draft law with proposals to modify the Electricity Law of the 29th of April, 1999 introducing a capacity remuneration mechanism (version 13.11.2018).

[37] Article 7 decies, §7 of the draft law with proposals to modify the Electricity Law of the 29th of April, 1999 introducing a capacity remuneration mechanism (version 13.11.2018).

[38] Article 7 decies, §6 of the draft law with proposals to modify the Electricity Law of the 29th of April, 1999 introducing a capacity remuneration mechanism (version 13.11.2018).

[39] Article 7 decies, §5 of the draft law with proposals to modify the Electricity Law of the 29th of April, 1999 introducing a capacity remuneration mechanism (version 13.11.2018).

3.3.2.2. Explanation FEBEG proposal

FEBEG supports the proposed contract durations: the differentiation of the contract durations is aligned with the other countries and the **variation in the length of the available capacity agreements is sufficient in order to ensure a level playing field between capacity providers**. FEBEG wants to emphasize once more that not the type of investment, but the eligible investment itself, i.e. investment threshold set at a CAPEX-level (in EUR/kW), determines the contract duration. Investment thresholds are needed to avoid that a project would be qualified for a contract duration that is not justified.

The draft law foresees a procedure when a capacity holder wants to apply for a capacity contract for more than one period of capacity delivery.[40] In such a case the capacity holder will have to submit a justified and detailed investment dossier at the CREG. The CREG will take a decision on the qualification of the investment in a category at least two weeks before the start of the auction.

FEBEG is of the opinion that the **procedure needs to be further clarified and detailed, as it is unacceptable that a capacity holder would only be notified of a binding CREG decision on the qualification for a certain capacity category two weeks before the start of the auction**. The following aspects need to be further detailed:

- the CREG decision should **not be binding**, in the sense that a capacity holder – having received a CREG decision on the qualification for a capacity category – should be allowed to downsize its investment and still participate in the auction for a one period contract;
- it should also be possible to submit an investment dossier at the CREG listing **several investment options**: the CREG should then qualify the different options allowing the capacity holder to choose with which option he wants to participate in the auction;
- a procedure to question or submit an **appeal** with respect to the decision of the CREG needs to be foreseen: the process should be organized as such that this procedure can take place between the 1st of June and – two weeks – before the start of the auction.

FEBEG also supports the chosen lead times. Although one could argue that a lead time of T-5 would allow more time for realizing investments, FEBEG is of the opinion that **a T-4 lead time is appropriate** for the following reasons:

- the lead time is aligned with the lead time in most other systems, possibly fostering future cross-border cooperation;
- a longer lead would possible increase the price of the bids as capacity holders will price in a risk premium due to a longer period of uncertainty between being selected in the auction and the start of the period of delivery;
- as no permits are required to be able to participate in the auction (see title prequalification), a shorter lead time will attract projects that are more advanced in their development and, hence, more likely to be able to deliver the service at the start of the delivery period.

3.3.3. Penalties for new to build capacity

3.3.3.1. Short description

The contracts will also include penalties for unavailabilities.[41]

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[40] Article 7 decies, §4 of the draft law with proposals to modify the Electricity Law of the 29th of April, 1999 introducing a capacity remuneration mechanism (version 13.11.2018).

[41] Article 7 decies, §7 of the draft law with proposals to modify the Electricity Law of the 29th of April, 1999 introducing a capacity remuneration mechanism (version 13.11.2018).

Penalties for new to build capacity have as objective to incentivize those future capacity holders to timely realize their investments in new capacities.

The termination free is an additional penalty for new to build capacity that is only applicable when the new capacity is not realized at all.

Ireland	§ 55	Performance bond Agreement with milestones in combination with termination fee
Italy	-	-
Poland	§ 45	Performance bond of 10 EUR/kW Or financial penalty, or reduction to a one year capacity agreement or termination of capacity agreement
Great-Britain	§ 58	Completion milestones and termination fees applicable Maximum liability for penalties
Belgium	**-**	**Penalty for each week delay at 200 % of the weekly capacity remuneration (1/52 of the yearly remuneration) with a maximum of 100 % of the yearly capacity remuneration** **Termination fee** **Financial guarantee to cover (1) the amount of the termination fee and (2) 10 % of the contract value, i.e. capacity fee times contract duration**

3.3.3.2. Explanation FEBEG proposal

As it is the objective of a CRM to ensure security of supply, it is key that the parties selected in the auction are able to deliver the required service in the delivery period. In circumstances where capacity providers are not able to deliver on time, this would directly threaten security of supply in Belgium.

This design element of the CRM is particularly important for Belgium as it will need to contract an **unprecedented volume of new to build capacity through this system within quite a short timeframe.** Notwithstanding the lead time of 4 years, the challenges of capacity providers of new generation capacity are for sure challenging: development, project management, permitting, connections, construction, …. Therefore, it is crucial to ensure real commitment from these capacity providers: a tool to ensure commitment is the implementation of **a strict penalty scheme on parties for failure to deliver as promised**.

A financial guarantee will need to be provided upfront for the whole termination fee to ensure payment in case of bankruptcy. The guarantee should also secure the payment of penalties in case of a delay.

3.4. Delivery

3.4.1. Draft legal framework

The obligations as regard the delivery of the service – being available – will be determined in the contract with the capacity provider[42]. The CREG will monitor the compliance with these obligations.[43]

[42] Article 7 decies, §6 of the draft law with proposals to modify the Electricity Law of the 29th of April, 1999 introducing a capacity remuneration mechanism (version 13.11.2018).

[43] Article 7 decies, §8 of the draft law with proposals to modify the Electricity Law of the 29th of April, 1999 introducing a capacity remuneration mechanism (version 13.11.2018).

3.4.2. Obligation period

3.4.2.1. Short description

The draft legal framework defines the period of capacity delivery[44]: this is the period from 1 November till 31 October of next year included in which the capacity providers will be remunerated for the availability of their capacity.

The contract with the capacity provider can further detail the capacity obligation.[45]

Ireland	§ 57	Available in times of scarcity
Italy	§ 44	Offer electricity in the MGP and MSD for each hour of the delivery period Difference payment whenever the reference price exceeds the strike price
Poland	§93-94	Delivered energy model System stress event in any hour of peak demand between 7.00 am and 10.00 pm on working days Warning by the TSO at least 8 hours in advance
Great-Britain	§ 61	Delivered energy model System stress events are defined as any half hour settlement period in which either voltage control or controlled load shedding are experienced at any point on the system for 15 minutes or longer
Belgium	-	**Pay-back obligation whenever the reference price exceeds the strike price during the obligation period** **No pay-back obligation for planned outages accepted and agreed upon by the TSO**

3.4.2.2. Explanation FEBEG proposal

As the obligation period is defined as the period from 1 November till 31 October of next year included, **capacity providers will continuously be obliged to be available and exposed to the pay-back obligation as well as other potential penalties.** As a result, capacity providers will be incentivized to avoid unplanned outages in periods with high risk for a pay-back obligation.

Nevertheless outages will have to be planned for inspections, maintenance, overhaul, repairs, … FEBEG is of the opinion that a workable solution needs to be found for such planned outages: FEBEG proposes to **exclude planned outages from the pay-back obligation and other potential penalties, provided they are accepted and agreed upon by the TSO**. It is up to the TSO to assess the system state and to evaluate if such a planned outage can be scheduled without endangering the safe operation of the grid and the security of supply which is thus by definition a period with a lower risk for a pay-back obligation. In practice, the **contracted capacity of a certain capacity provider that is exposed to the pay-back obligation will have to be reduced** with the contracted capacity linked to the asset that has planned outage.

[44] See definition 74° in article 2 of the draft law related to the capacity remuneration mechanism (version 13.11.2018).

[45] Article 7 decies, §6 of the draft law with proposals to modify the Electricity Law of the 29th of April, 1999 introducing a capacity remuneration mechanism (version 13.11.2018).

3.4.3. Penalties for unavailability

3.4.3.1. Short description

The contract with the capacity provider will foresee penalties for not respecting the availability obligations.[46]

Ireland	§ 57	Pay-back obligation
Italy	§ 95-101	Pay-back obligation Penalties: *Temporary non-fulfilment:* Not able to provide 80% of the contracted capacity 25% of the total hours of a month Suspension of capacity payments for the months in which this occurs *Definitive non-fulfilment:* Temporary non-fulfilment lasts for 3 months (95) Capacity provider must reimburse capacity payments received for other months Penalties for demand: TSO revokes benefits in terms of exemption from capacity fee + option to disconnect contracted demand + exclusion from CRM
Poland	§ 102	Hourly penalty rate of 750 EUR/MW
Great-Britain	§ 67	Penalty rate set at 1/24th of provider's annual capacity payment
Belgium	-	**No pay back obligation** **No penalty for unavailability when the committed capacity is fully transferred on the secondary market** **Penalty rate (EUR/MW/unavailability period) defined as function of the yearly capacity payment**

3.4.3.2. Explanation FEBEG proposal

For the moment is not clear if the pay-back obligation will be designed and tuned to have a correct reimbursement of revenues or to enforce the availability of the capacity. FEBEG agrees that the pay-back obligation in a way incentivizes availability, but nevertheless pleads to **strictly decouple both objectives: the pay-back obligation should be calibrated to have a correct reimbursement of revenues and an appropriate penalty scheme should be set up to enforce availability**.

Assuming it is **the objective to design an appropriate and reasonable penalty scheme to effectively incentivize the availability of capacity, the following situations** need to be distinguished:

- *Capacity committed in CRM is available*

  The capacity is **not subject to any unavailability penalty** as it is available. The pay-back obligation could be applicable, but only in case the reference price would exceed the strike price.

[46] Article 7 decies, §7 of the draft law with proposals to modify the Electricity Law of the 29th of April, 1999 introducing a capacity remuneration mechanism (version 13.11.2018).

- *Capacity committed in CRM is not available due to a planned outage*

  FEBEG proposes to **exclude planned outages from the pay-back obligation and other potential penalties, provided they are accepted and agreed upon by the TSO**. It is important to emphasize that – during the period of the planned outage – this capacity did not earn any revenue in the market and no capacity remuneration was received as such period of planned outages are included in the derating factor.

- *Capacity committed in CRM is not available due to a forced outage, but obligation is fully transferred on the secondary market*

  The capacity provider confronted with a forced outage, will need to take immediate action to rebalance his portfolio: he will need to **buy back energy on the market**. As such this is already an incentive – linked to the EOM and not to the CRM – to be available.

  If the capacity provider manages to fully transfer – via the secondary market – his capacity obligation to another market party, then he should **not be exposed to the pay-back obligation nor to any unavailability penalty**. The market participant to which obligation was transferred will receive a remuneration through the secondary market and will be exposed to the pay-back obligation

- *Capacity committed in CRM is not available due to a forced outage and the obligation is not or only partly transferred on the secondary market*

  The capacity provider confronted with a forced outage, will need to take immediate action to rebalance his portfolio: he will need to **buy back energy on the market**. As such this is already an incentive – linked to the EOM and not to the CRM – to be available.

  If the capacity provider doesn't manage to transfer – or only partly – his capacity obligation to another market party, then he should **not be exposed to the pay-back obligation but to an unavailability penalty**.

  The capacity provider shouldn't be exposed to the pay-back obligation for the simple reason that – due to the forced outage – **he didn't earn any revenues in the energy market**. Therefore, it is important to set up **an appropriate penalty scheme – replacing the pay-back obligation – that incentivizes the availability of the contracted capacity in case of system need**.

  FEBEG proposes a penalty rate (EUR/MW/unavailability period) defined as a function of the yearly capacity payment. The penalty should be applied to a derated capacity according to the needs reflected by the system load: min (1, expected load/peak load).

FEBEG also wants to warn that the combination of a wrongly calibrated pay-back obligation or a pay-back obligation tuned as an incentive for availability in combination with strict unavailability penalties risks to be a confiscatory, disproportionate and unreasonable penalty.

An important element to take into account when setting the penalties for unavailability is the availability of a secondary market: as long as there's no liquid and efficient secondary market, it seems not feasible to impose severe penalties for unavailability. It should also be taken into account that the penalty risk would set the price on the secondary market.

3.4.4. Secondary market

3.4.4.1. Short description

The draft legal framework states that the functioning rules will include the mechanisms for the organization of a secondary market at least one year before the first period of capacity delivery.[47]

Ireland	§ 51	Obligatory use of centralized secondary market
Italy	§ 83 – 86	Trading on the secondary market is managed by the TSO
Poland	§ 89–92	Decentralized (OTC contracts) or through organized third parties (commodity exchanges)
Great-Britain	§ 60	Different forms of secondary market: financial trading, volume reallocation and obligation trading
Belgium	**-**	**Secondary market facilitated by the TSO**

3.4.4.2. Explanation FEBEG proposal

FEBEG considers the introduction of an efficient secondary market as **a key feature of the mechanism to mitigate and manage risks related to unplanned outages**.

A secondary market allows capacity providers to **manage their risk exposure to the pay-back obligation and the unavailability penalties** by exchanging their obligation in case of unplanned outages. This is in particular important for **single power plant operators**.

An important **concern is the liquidity of the secondary market**. The volumes offered on the secondary market will mainly consist of:

- prequalified but not selected capacity provided this capacity remains in the market;
- prequalified derated capacity, i.e. part of contracted capacity that is free from availability obligations due to derating;
- prequalified but not contracted cross-border capacity insofar cross-border tickets are available.

The objective of the CRM is to remunerate for the adequate amount of capacity: so, if the mechanism is tuned well, there will not much surplus of capacity and thus only limited capacity on the secondary market.

Therefore, FEBEG emphasizes the **importance of the following proposals**:

- a secondary market should be implemented form the start of the implementation of the CRM;
- the secondary market should be facilitated by the TSO;
- the secondary market should allow continuous transfer of obligations;
- …

[47] Article 7 decies, §7 of the draft law with proposals to modify the Electricity Law of the 29th of April, 1999 introducing a capacity remuneration mechanism (version 13.11.2018).

3.4.5. Stop loss limit

3.4.5.1. Short description

A stop loss limit is a cap on the payments by the capacity providers to avoid that they would suffer too big losses in case they would not be able to respect their commitments.

Ireland	§ 63	Limit to the amount of difference payments to 1,5 times the annual option fees received.
Italy	-	-
Poland	§ 102	Overarching annual liability cap of 200 % of the annual capacity fees A monthly cap of 20 % of the annual cap
Great-Britain	§ 67	A monthly liability cap of 200 % of a provider's monthly capacity revenues, which, given the weighting of monthly payments according to system demand, may expose providers to a penalty cap up to 20 % of their annual revenue in any one month An overarching annual cap of 100 % of annual revenues
Belgium	**-**	**Stop loss limit for combination of pay-back obligation and other penalties Stop loss on monthly (200 % of monthly capacity remuneration) and yearly basis (100 % of the annual capacity remuneration)**

3.4.5.2. Explanation FEBEG proposal

FEBEG prefers a decoupling between the pay-back obligation (fair reimbursement of revenues) and the unavailability penalties (incentive for unavailability). As long as both objectives are not clearly distinguished, FEBEG sees several reasons to **implement a stop loss for both the pay-back obligation and other penalties**:

- It makes it easier for smaller or new players to participate as they can better estimate their overall risk, thereby increasing the level of competition in the system.

- For all participants in general, it lowers the risk involved which would result in the participants providing lower auction bids. This, together with a higher level of competition, will lead to lower overall system costs.

- A stop loss could mitigate to a certain extent the financial risk as consequence of an unplanned outage. **Unplanned outages are a big risk for capacity providers as they will be obliged to pay back the difference between the reference price and the strike for the contracted capacity even when his capacity was not available and did not generate any revenues**. The absence of a stop-loss limit on the pay-back obligation and possible unavailability penalties could have a huge impact on capacity providers in case of unplanned outages, possibly leading to bankruptcy of some capacity providers and to an increased risk on security of supply. Ultimately, capacities having to leave the market due to confiscatory penalties will never contribute to security of supply. For instance, a forced outage of a contracted asset of 400 MW during half a day (12 hours) at 3000 EUR/MWh could cost 12 MEUR (assuming a strike price at 500 EUR/MWh) in pay-back obligation for this single outage. In comparison, a capacity price of 20 EUR/kW would only bring 8 MEUR/year to the same unit.

The best option to implement a stop loss is to set **a cap of the losses in function of the received capacity payment on a monthly (200 % of monthly capacity remuneration) and a yearly basis (100 % of the annual capacity remuneration)**. This is fair to all participants as it balances the penalty according to size of contract, thereby limiting the exposure of small participants and holds large participants

responsible for the large volume they have promised to make available. **The actual height of the stop loss limit will off course depend on the overall package of penalties in combination with the precisely defined pay-back obligation.**

3.5. Pay-back obligation

3.5.1. Draft legal framework

In a CRM with reliability options the capacity providers are obliged to reimburse to the TSO the positive difference between the reference price and the strike price.[48] This obligation will be imposed in the contract with the capacity provider.[49]

3.5.2. Pay-back obligation should be applicable to all capacity providers

In order to have **a level playing field amongst all capacity providers it is key that they are all equally subject to the pay-back obligation**, irrespective whether they are holder of generation, storage or demand response capacity.

In Ireland[50] capacity providers of demand response are excluded from the pay-back obligation because it is not possible for demand response to receive an energy payment for the demand reduction. This situation is very different from the one in Belgium: Belgium did considerable efforts to fully integrate demand response in the market so that it can participate (day-ahead on Belpex, intraday with transfer of energy, …) in return for an energy payment.

3.5.3. Reference price

3.5.3.1. Short description

The reference price is defined as the price that reflects the price that is supposed to be realized by the capacity provider on the electricity markets[51].

The reference price should approximate the revenues that an asset has captured on the electricity markets. A correct methodology to evaluate the electricity price taken as reference for the computation of the earned revenues is thus an important precondition for a fair calculation of the amount that has to be paid back to the TSO.

If the reference price methodology fails at correctly reflecting the revenues earned on the electricity markets, the resulting deviations between the real revenue and estimated revenue based on a calculated reference price will create **an additional risk for the capacity provider**. This risk will be translated into an additional risk premium in the bids which lead to an increase in the system cost and will ultimately lead to a higher cost for society. Investors might choose not to bid in at all when the long-term risk they would be exposed to could not adequately be estimated or hedged. Such an

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[48] See definition 69° in article 2 of the draft law related to the capacity remuneration mechanism (version 13.11.2018).

[49] Article 7 decies, §6 of the draft law with proposals to modify the Electricity Law of the 29th of April, 1999 introducing a capacity remuneration mechanism (version 13.11.2018).

[50] § 126 of '*Decision State Aid SA.44464 – Ireland – Irish Capacity Mechanism'*, European Commission, DG COMP, 24th of November, 2017.

[51] See definition 78° in article 2 of the draft law related to the capacity remuneration mechanism (version 13.11.2018).

approach would run counter to the original objective of a CRM, which is to provide a better investment climate for producers through risk reduction at the lowest cost for society.

Other countries with reliability option have also developed a methodology to determine a reference price:

Ireland	§ 59	Price actually obtained by an individual capacity provider selling its electricity on the electricity market (spot). If a seller fails to sell, balancing prices will apply No reference price for foreign capacity providers.
Italy	§ 88-91	Reference price is function of the price of MGP (Mercato del Giorno Prima) and the MSD (Mercato per il Servizio di Dispacciamento). All forward volumes are excluded from pay-back obligatoin Reference price for foreign capacity providers is the MGP price, as market coupling is not applied to balancing up till now.
Poland	-	Not applicable
Great-Britain	-	Not applicable
Belgium	-	**Reference price based on day-ahead market but only applicable on volumes exposed to the spot market.**

3.5.3.2. Explanation FEBEG proposal

Introduction

Ideally, a reference price would be determined for each asset: this methodology would allow to accurately reflect the revenues of the concerned asset.

Such an approach at asset level – whether it be ex ante or ex post – is at the moment simply not possible. The necessary information for such exercise is not available and setting up tools to obtain this information would generate operational issues, administrative burden and huge implementation costs. On top of that, it would require a considerable implementation time.

For this reason, FEBEG urges for a **realistic and pragmatic approach that as much as possible correctly reflects the revenues of the capacity provider**.

Reference price based on day-ahead market

The day-ahead market is the last effective, liquid and transparent market in which capacity holders can sell and buy energy. Indeed, the objective of the intraday market and the balancing market is not to generate structural revenues for generators: the intraday market, on the one hand, allows generators to adjust their positions to unexpected variations in the forecasted consumption and/or generation and the balancing market, on the other hand, is a tool of the transmission system operator to ensure the operational security of the system in real time through a market mechanism.

Additional information: overview short-term markets

Irrespective of the inclusion of forward markets, it is clear that the reference price has to include short-term markets as these markets will most clearly signal moments of scarcity. Three market timeframes are generally considered as being part of the short-term markets: day-ahead market, intraday market and balancing market. Not all these markets may be suitable for inclusion into the reference price. For the reference price to be a reliable indicator of earned revenues by capacity, they need to be liquid markets with a clear market price reference and have a reliable signaling function of scarcity moments.

Day-ahead market
The day-ahead market is currently the reference short-term market timeframe with the largest pool of liquidity. It is used by market participants to close their positions and schedule generation capacity. Through the use-it-or-sell-it mechanism, all available cross-border transmission capacity is available for the day-ahead market to exchange energy flows between countries. As the day-ahead market clears according to the pay-as-cleared principle, each market participant receives or pays the single clearing price. The market also provides a reliable indicator of potential scarcity moments, as most supply and load are being traded on this market. In the past, prices above 250 EUR/MWh have occurred, and price caps allow it to go to 3.000 EUR/MWh.
The day-ahead market is therefore ideally suited for inclusion in the reference price.

Intraday market
The intraday market is currently used mainly by market participants to rebalance any deviations from the schedules of the day-ahead market based on new elements. As such elements can also result in scarcity, the Intraday market can at moments signal a scarcity that was not present in the day-ahead market. The Intraday market is a continuous trading market, where prices are based on the outcome of bilateral trades. There is therefore no single reference price captured by all market participants.
The intraday market could be relevant to include in the reference price as it can signal a scarcity moment that was not yet present in the day-ahead market. However, two elements should be considered when doing so. First, the actual volumes that are traded are still limited and thus also the capacity that actually earns any scarcity prices. Any inclusion of intraday prices in the reference price should therefore reflect the respective volumes on both the day-ahead and intraday markets. Second, as the intraday market is a continuous market, no single reference price exists that all market participants receive or pay. Even if a 'synthetic' reference price is formulated, individual market participants will earn a different income than the one calculated based on the synthetic price.

Balancing market
The balancing market is not a full market where market participants can exchange energy freely. It is instead an 'obligatory' market where markets participants with residual imbalances in their portfolio are forced to buy or sell energy at the imbalance price. The imbalance price is a reflection of the cost for the Transmission System Operator to resolve such imbalances. The imbalance price is thus mainly driven by real-time imbalances between supply and demand. As an indicator of scarcity moments, it is therefore not reliable as high imbalance prices may occur due to unexpected outages while there is no actual scarcity situation. At the same time, the capacity exposed to imbalance prices is extremely limited and in cases of high imbalance price – indicating mostly an unexpected outage – mostly creating a cost instead of a revenue for exposed producers.
The balancing market is therefore not suitable for inclusion in the reference price. It is not a reliable indicator of scarcity situations, covers a marginal amount of volumes and mostly exposes a generator to an additional cost instead of a revenue.

Ancillaries' market
The revenues out of the ancillaries' market shouldn't be taken into account for the determination of the reference price as the capacity is controlled by the TSO: indeed, the volumes for the ancillary services cannot be valorized on the day-ahead or intraday markets as a result of the contractual obligations towards the TSO.

Volumes exposed to this reference price

The reference price methodology should recognize the existence and value of the forward markets for risk mitigation, both towards producers and towards consumers. For risk management purposes, a view on long term revenue stability is required: this can be achieved selling the electricity upfront when market circumstances are favorable. Energy volumes that were thus sold on forward markets for hedging purposes do not earn the scarcity prices that would arise in short-term markets like the day-ahead market. If the pay-back obligation does not take this into account, the generator would be

exposed to the difference between reference price and strike price for the entire volume, irrespective of the volumes that were hedged and thus did not earn the price spike on the short-term market.

Such approach would have several downsides:

- If Belgian capacity holders would be put in the situation where they will need to pay back revenues they have never received in the spot market, this would be a major **market distortion as such risk doesn't exist in other countries**. As such this would discourage both existing capacity holders and potential investors to invest in Belgium and to participate to the Belgian CRM.

- Capacity holders will be forced to apply an additional risk premium on the capacity bids which leads to a **structural increase of the global system costs and, hence, of the electricity prices for the Belgian end consumers**. There would no doubt be an impact on industrial consumers, that buy electricity years ahead, and on the other consumers, that would like to their electricity supply ensured at the lowest cost. Indeed, a generator that has a forward deal with a consumer will be exposed to the risk of having to pay back the peak price in day-ahead while he has not been benefitting from that price level.

- **A decrease of the liquidity on the forward market**s will be another consequence. This would make the Belgian forward market less attractive with a negative impact on the competition and the possibilities for supplies to secure their electricity supply at an attractive cost.

To avoid such detrimental impacts, the reference price methodology should handle properly the volumes hedged on the forward markets versus the volumes exposed to the short-term markets when computing the pay-back obligation.

It should also be noted that – under pressure of the regulatory bodies – variable prices for residential customers have largely disappeared and have been replaced by fixed prices, **meaning one expects generators to sell, and hedge, their output at fixed prices to the customers – via intermediate traders and suppliers – and leave only small part open in day-ahead**. This limited open position in day-ahead is merely to cover for uncertainties that exist on the real-time consumption and available generation capacity (outages, forecasted renewables, …).

In practice, forward markets will never exceed the strike price (representing short-term generation or opportunity costs of the peak units, storage or demand response) and the corresponding volumes sold on these forward markets should not be subject to any pay-back obligation. This necessary exemption can be best solved by **a reference price methodology that includes only short-term market prices and that – at the same time – is only applied to the associated volumes exposed to the short-term markets and which would actually capture such prices.** In this way, the reference price fully reflects scarcity prices when they appear but capacities that were sold in forward markets and thus did not capture the scarcity prices are immunized from paybacks for revenues they did not earn.

This does require the determination of which (proportion of) contracted volumes are actually exposed to short-term markets.

- <u>Ex post determination of exposed volumes</u>

  Ideally the determination of exposed volumes is done ex post, but in practice this is **very difficult and complex** in the context of the functioning of the wholesale market as there's not a clear link between the traded volumes and the individual generation, storage or demand assets behind those volumes.

In Ireland it is straightforward to determine the exposed volumes because **all parties – as a result of the market design – are trading on the day-ahead market**. It is nevertheless important to point out that in Ireland parties, like suppliers, buying electricity on the day-ahead market are protected against price spikes; in return they pay a fee for this hedging. In this way, forward sales at a fixed price are not hindered as the according risk can be mitigated via call-options in the forward contracts.

In order to demonstrate that there's no capacity withholding**, Italy has set up a transparency platform for forward deals**: all market parties – including big consumers – are expected to register their forward deals on this platform. Matching of the traded volumes with the generation, storage or demand assets is being done ex post.

The deals registered on this platform are considered as not being exposed to the spot markets. Although this solution leads to an accurate reflection of the exposed volumes, it is nevertheless important to point to the following:

- The Italian market is a market with a high level of central dispatch: as consequence market parties can be more transparent about forward positions without detrimental impact on their business.
- The platform also allows to make a clear link between the asset and the hedge (by access point) which is not possible in Belgium as deals in the forward market are concluded on portfolio level.
- In Belgium such a platform, or a similar tool, doesn't exist: building this platform would create high implementation costs and be partly redundant to REMIT obligations.

– <u>Ex ante determination of exposed volumes</u>

An ex ante determination **enables capacity providers to upfront estimate the risk as a result of the payback obligation and include that risk in their bids in the capacity auction**, but the downside is that they will influence the energy only market as they influence hedging strategies. As there's no ideal model, a technology neutral, transparent and simple solution is key. An important element is also that a market parties' position shouldn't be dependent of policies of other parties.

A possibility would be to use an ex-ante determined reference level of the volume exposed short-term markets that is then applied to the contracted capacity on a pro-rata basis for the calculation of the pay-back. This way, **contract holders have transparency and visibility** on their exposure to short-term markets for the calculation of the payback amount while also taking into account the benefits of forward markets for hedging purposes. On the other hand, **producers cannot evade the payback obligation** at moments of scarcity in the market which will incentivize wholesale market participants to offer all available electricity generation and thus avoiding peak prices.

Determining the reference level of the exposed volumes is not easy. The volumes traded on EPEX Spot are not reflecting the whole volume as there are still OTC deals, PPA's, …The calculation of level of exposed volumes could be **inspired by the methodology that has been used to determine the fall-back price for the transfer of energy**: this formula approximates, for a part, the sourcing cost of a customer connected to the transmission grid. Nevertheless this methodology should be adjusted taking in to account the following elements:

– the scope should be enlarged as fall-back price for the transfer of energy is calculated for bigger consumers for which the actual consumption is known and not for profiled consumers;

- the calculations should take into account the difference – although both act as a *bonus pater familias* – between the generators' hedge (lower) and the traders' hedge (higher) as the fall-back price for the transfer of energy is mainly relating to the traders' hedge;
- …

The **publicly available annual reports** of energy companies also provide information on the hedge volumes as this important information for shareholders that want to have a view on the risk policies of companies. The publicly available annual reports of the most important large energy companies reveal similar hedging strategies: an arbitrary percentage in link with these market practices would therefore be a pragmatic approach for determining the volumes exposed to the short-term markets.

This ex ante determined proportion of contracted volumes that are exposed to short-term markets should be **fixed in the capacity contract for the entire duration of the contract.** This allows the capacity provider to take this ratio of exposure into account in his risk management and hedging strategies.

3.5.4. Strike price

3.5.4.1. Short description

The strike price is an upfront determined price that indicated the threshold above which the capacity provider needs to reimburse the difference with the reference pricet[52].

The strike price is in fact the threshold triggering the pay-back obligation: the strike price reflects the price level above which the capacity providers will be obliged to pay back part of their earned revenues. The objective of the strike price is to protect consumers from high price spikes and avoid excessive revenues for some assets.

Ireland	§ 58	Strike price should reflect the short run marginal costs of a peaking unit. Formula taking into account fuel costs, carbon cost and cost of reference of a demand response unit of 500 EUR/MWh.
Italy	§ 90-92	Strike is set at level of the standard hourly variable cost of the technology with the highest variable costs, i.e. peak technology. 125 EUR/MWh for existing contract throughout contract duration and 167 EUR/MWh for new contracts (reviewed after comment EC) Demand response does not participate in the CRM: it is opted out and exempted from financing the CRM
Poland	-	Not applicable
Great-Britain	-	Not applicable
Belgium	-	**Strike price should be applicable to all capacity holders and should be set at highest of 2 options: 1) fuel plus CO_2 cost of the marginal plant or 2) demand response costs.**

3.5.4.2. Explanation FEBEG proposal

The economic viability of a power plant is dependent on several factors: revenues from electricity markets and other additional revenues, fuel and CO_2 costs, fixed costs, investment costs, etc. **To ensure the intended healthy investment climate for power plants and to minimize interference with the**

[52] See definition 77° in article 2 of the draft law related to the capacity remuneration mechanism (version 20.07.2018).

energy market, the strike price needs to properly reflect the expected costs of the marginal capacity provider (generation, storage or demand response) during stress events.

It is important to emphasize that the existence of infra-marginal rents is economically justified to cover (part of) the fixed and investment costs, but a CRM based on reliability options limits somehow this infra-marginal rent in exchange for a capacity remuneration. Indeed, there's a strong link between the strike price, the reference price and the bidding strategy of capacity holders: the bidding strategy for a certain asset will include the potential cost of a pay-back obligation given the reference price, the strike price and the cost structure of the asset**. In other words: the higher the strike price, the lower the bids in the capacity auction**.

FEBEG considers the definition of the strike price in the Irish system as good approach: the Irish strike price is formula with a multiplier based on the highest of 2 options: 1) fuel plus CO_2 cost of the marginal plant, or 2) demand response costs.

Case of an OCGT

An OCGT – often being the marginal generation unit – will struggle in the EOM as well as in the CRM to find a sufficient margin to cover its fixed costs. Therefore, it is important the carefully design the strike price at a sufficiently high level.

According to FEBEG the strike price should therefore be one single price applicable to all capacity providers set at the highest of two options: 1) fuel plus CO_2 cost of the marginal plant or 2) demand response costs.

Defining the strike price this way has several advantages:

- applying the same strike price to all capacity holders will avoid any incentives for gaming and other unintended side effects;
- a strike price based on the highest of the costs of the marginal plant or demand response costs ensures a level playing field between generation, storage and demand response;
- one avoids to create market distortions because with different strike prices the risks for the capacity holders participating in the auction would be different;

The strike price could also over time be adapted to incorporate market evolutions as long as the strike price is known before the auction and fixed for the obligation period.

3.6. Financing

3.6.1. Draft legal framework

The draft legal framework[53] stipulates that the financing of the Belgian CRM will be decided upon by Royal Decree.

The cost of the CRM is defined as the whole of the development and operational costs of the TSO or contracting entity for the implementation of the CRM minus payments to the TSO, e.g. pay-back obligation, penalties, …

[53] Article 7quaterdecies of the draft law with proposals to modify the Electricity Law of the 29th of April, 1999 introducing a capacity remuneration mechanism (version 13.11.2018).

As regards financing several options are still under consideration:

- financing through TSO tariff for the Public Service Obligation of the TSO;
- tariff for each Belgian end consumer based on the consumed energy (in kWh): the CREG could develop a non-discriminatory mechanism for the pass-through of this tariff taking into account the contribution of each consumer to the peak system load;
- charge to be paid by the suppliers: in this case the implementation of the CRM is no public service obligation for the TSO and an authority will be responsible for the financing and contracting related to the mechanism;
- financing based on the net power off-take (in MW) on the moment of scarcity to be billed to the ARP taking into account the net power off-take (in MW) during the last 5 quarter-hours with the highest scarcity.

The listed options are not detailed yet and leave a lot of room for interpretation.

3.6.2. Need for a thorough cost-benefit-analysis of the options

As such, the characteristics of the centralized CRM based on reliability options doesn't determine the choice of financing mechanism: it is a matter of a fair **cost allocation and transparency to the final customers who ultimately pay the charges in all systems**.

The choice for one or another option could have significant implications with regard to operational and administrative burden as well as on the risk management of the involved parties. FEBEG therefore recommends **a thorough cost-benefit-analysis** of the different options taking into account that the cost allocation should be transparent, efficient, coherent, simple, fair and fostering competition and innovation. The cost-benefit-analysis will have to answer two important questions:

- Will the charge be capacity based or energy based?
- How will the charge be allocated to the end consumer?

3.6.3. Type of charge

3.6.3.1. Short description

The *first choice* to be made is whether the charge will be energy based (kWh) or capacity based (kW).

Most other countries have chosen for a capacity based charge:

Ireland	§ 62	Capacity charge
Italy	§ 45	Charge calculated mainly based on the contribution to the peak system load
Poland	§ 107	Capacity charge
Great-Britain	§ 69 and 111	Levy in function of the peak demand of suppliers portfolio
Belgium	**-**	**Capacity based charge**

3.6.3.2. Explanation FEBEG proposal

Building upon the experiences in other countries and taking into account the views of the European Commission, **a capacity based charge (in kW) is the best option for Belgium**:

- a capacity based charge is coherent and consistent with the objective of a CRM, i.e. ensuring sufficient capacity: the global cost of the system is directly linked to the required capacity

- as the cost of the CRM is dependent of the cost of capacity and thus a fixed costs in EUR/kW, its financing should be – for settlement reasons – charged in EUR/kW, rather than to make its financing dependent from the consumed energy (EUR/kWh);

- a capacity based charge favors the 'polluter pays'-principle: the one who contributes most to the peak demand of the system, should pay the most. A capacity based tariff creates therefore an incentive to lower ones contribution to the peak demand. This creates exactly the desired effect: a lower peak demand leads to reduced capacity needs and thus lower financing costs for the CRM.

For the abovementioned reasons it is already a long standing wish from the sector – supported by other stakeholders – to transform the surcharge for the strategic reserves (currently in EUR/kWh) into a capacity based charge in (EUR/kW).

3.6.4. Allocation of the charge

3.6.4.1. Short description

The *second choice* to be made is how to allocate the cost to the end consumers.

All countries have chosen a methodology that best fits their market structure:

Ireland	§ 62	Recovery via electricity supplier in the form of a capacity charge that will be in proportion to the consumption of their customers
Italy	§ 45	Monthly levy upon the dispatching users per energy withdrawal point (mainly retailers) and is collected by the TSO
Poland	§ 107	Several entities, e.g. final customers connected directly to the transmission grid, electricity distribution system operators, an energy sector undertaking performing economic activities in scope of transmission or distribution directly connected to the transmission grid and an energy sector undertaking generation electricity and connected directly to the transmission grid
Great-Britain	§ 69-111	Suppliers
Belgium	**-**	**Surcharge as a component of the tariffs of the TSO**

3.6.4.2. Explanation FEBEG proposal

FEBEG is of the opinion that the **capacity based charge should be passed on to the end consumer through a surcharge as a component of the tariffs of TSO**.

Capacity based levy charged to ARP or the supplier (cost in commodity) has several downsides

A capacity based levy charged to the ARP or the supplier would incentivize the ARP or the supplier to reduce the yearly peak off-take of its portfolio. To that end, he would have to develop new services, such as peak shaving or demand response schemes.

Unfortunately, introducing such a levy charged to the ARP's or suppliers has **also several downsides**, mainly leading to a loss of transparence towards the end consumers:

Suppliers:

- the yearly off-take peak of each suppliers' portfolio is not known at the moment: it will be complex to set up procedures, cooperation agreements with DSO's, … to be able to calculate the yearly of off-take peak by supplier, especially in a federalized country;

- it increases additional complexity (administrative burden, settlement towards customers, …) for suppliers, and could thus create a new entry barrier for new suppliers;

- the suppliers will pass on the cost to the end consumers: as each supplier will have to make its own calculations and will apply own commercial strategies the cost will not be transparent for the end consumers;

- the abovementioned increased complexity and risk could push ARP's or suppliers to charge risk premiums.

ARP's:

- the net power off-take (in MW) and the last 5 quarter-hours with the highest scarcity – definition is unclear – will only be known ex post when a calendar year expires;

- it increases additional complexity (administrative burden, settlement towards suppliers, …) for ARP's, and could thus create a new entry barrier for new ARP's;

- the ARP's will pass on the cost to the suppliers, which will in turn pass on the costs to the end consumers: as each ARP and supplier will have to make its own calculations and will apply own commercial strategies the cost will not be transparent for the end consumers;

- the abovementioned increased complexity and risk could push ARP's and underlying suppliers to charge risk premiums.

Capacity based surcharge, as a component of the TSO tariffs, directly charged to end consumer (cost outside commodity) is the better option

- There is a **precedent** case for Belgium. The strategic reserve was implemented as transitory measure to ensure the security of supply of the country. In the design of the mechanism, the government opted for a financing through a Public Service Obligation, covered by a surcharge as a component of the Elia tariffs. Such a surcharge also guarantees Elia it will be able to recover all costs.

  Le coût de la réserve stratégique est couvert par une surcharge tarifaire visant à financer l'obligation de service public du gestionnaire de réseau tel que visé à l'article 12, § 5, alinéa 2, 11°. Cette surcharge est soumise à l'approbation de la commission. Ce coût est constitué des frais supportés par le gestionnaire du réseau en vertu des contrats conclus à l'issue de la procédure prévue à l'article 7quinquies et, le cas échéant, ceux résultant d'une imposition par le Roi aux soumissionnaires conformément à l'article 7sexies, déduction faite des éventuels revenus nets générés par l'activation des capacités contractées dans le respect des règles visés à l'article 7septies.[54]

- The choice for a Public Service Obligation at TSO level has **many advantages** that a charge through the suppliers does not provide:

[54] Article 7 octies of the Electricity Law of the 29th of April, 1999.

- Transparency: With a surcharge the cost of the CRM will be transparent for the end consumer (no black box) as it will be applied through a cascade via the DSO to all end consumers: it will appear as a separate line on the bill for each end consumer. On top of that it will be approved and monitored by CREG.

- Efficiency: It incentivizes the explicit participation of consumers to the CRM (i.e. end consumers becoming capacity providers and selling their capacity in the auction) but also allows all other consumers an implicit reduction of their contribution to the CRM by reducing their yearly peak.

- Competition and innovation: The surcharge will stimulate competition and innovation in energy services and demand response; reducing peak consumption will create a direct benefit of the end consumer and all market parties will have to possible to offer peak shaving services to the end consumer.

- Coherency: Security of supply/reliability is a public good as the risk of disconnection in case of shortage is socialized (no targeted disconnection possible).

- Simplicity:
  - It is easy to implement as similar levies already exist (recovered through a cascade system) and also approved by European Commission in the case of Italy.
  - It doesn't create a barrier of entry for suppliers as there's no additional complexity (administrative burden) and financial risks, which would to lead to possible risk premiums charged to customers.
  - Elia is already applying a 'yearly peak tariff' to end consumers and DSO's are considering to introduce capacity based tariffs.

- Fairness:
  - All consumers will be charged the same cost, no matter the choice of the supplier.
  - The tariff will need to be approved by the Federal regulator (as the TSO is a regulated actor)
  - There's the possibility to include a 'degressivity'-scheme (cf. Elia offshore tax)

– In addition, the Electricity Law stipulates that the **TSO has a clear role in ensuring the security of supply**, which reinforces the choice for a Public Service Obligation at TSO level.

La gestion du réseau de transport est assurée par un gestionnaire unique, désigné conformément à l'article 10. <L 2003-03-20/49, art. 14, 008; En vigueur : 01-07-2003>. Le gestionnaire du réseau est responsable de l'exploitation, de l'entretien et du développement du réseau de transport, y compris ses interconnexions avec d'autres réseaux électriques, en vue d'assurer la sécurité d'approvisionnement.[55]

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[55] Article 8 of the Electricity Law of the 29th of April, 1999.